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PRESIDENT'S ADDRESS

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BY MURRAY MACLAREN, M.D., M.R.C.S. (Eng.), F.A.C.S.

AT the termination of a very successful meeting of the Canadian Medical Association held in London last year I had an opportunity of thanking the members of the Association for the honour they had done me by electing me to the Presidency, and I now repeat how sincere is my appreciation of this high distinction, which has so kindly been conferred upon me. I am quite conscious that I may fall short in fulfilling the requirements expected of one occupying this responsible position.

I have much pleasure in welcoming to our forty-seventh annual meeting the distinguished visitors who have come so far, from the Mother Country and the United States, and whose presence here will add to our enjoyment and greatly enhance the value of this gathering. Allow me as well heartily to welcome the members of this Association. It is proper also that I should here fully recognize the splendid work done by the St. John Committee of Arrangements and the admirable spirit which has prevailed throughout months of preparation.

This large assemblage of medical visitors has suggested to me that it might be of interest to review the history of the early and important visits of medical men to this city and province. There are three periods which seem of particular interest from this aspect.

The explorers, de Monts and Champlain, after receiving authority from Henry IV, King of France, to undertake the colonization of Acadia, sailed from Havre on the 7th of April, 1604, and arrived four weeks later at the southwest shore of Nova Scotia. De Monts and Champlain later on explored the Bay of

Fundy in a smaller boat of eight tons. Leaving their ship with the greater part of the members of the expedition at St. Mary's Bay, Nova Scotia, they took with them about a dozen men. On the 24th of June, 1604, they entered what is now known as the harbour and river of St. John, as Champlain says in his remarkable account of the exploration, "one of the largest and deepest rivers we have yet seen, which we named the River St. John, because it was on that saint's day we arrived there."

Five hundred miles on its long career,
It flows on its lordly way,
Where the lofty pine and the cedar rear
Their crests to meridian day.
Through the forest dark, as it speeds along,
It winds through the valleys fair,
Where the boatman's voice and the raftman's song
Are borne on the morning air.

It is not mentioned whether they carried a surgeon with them in the pinnace, but it is probable there was one: There were at least two surgeons in the expedition, and as the leaders were in this boat, it is likely one was with them, more especially as it is known that on a later occasion, in a voyage made in a pinnace south of Cape Cod, a surgeon was carried. Were a surgeon present when Champlain discovered St. John, as is likely, he would of course have been the first physician to visit these shores.

The stay of de Monts and Champlain in St. John was very brief as they soon proceeded to the river St. Croix, New Brunswick, to search for a locality suitable for a settlement. St. Croix Island was selected and the remainder of the expedition joined them there. As it proved, they were unfortunate in their choice. The situation of a settlement on an island prevented them, at some seasons of the year, having free access to the mainland for a supply of water and food; there was much illness resulting from their mode of living during the winter of 1604-05. Champlain gives an interesting account of the severe and fatal illness which appeared among the colonists; he says, "During the winter many of our company were attacked by a certain malady called the *mal de terre*, otherwise scurvy, as I have since heard from learned men. There were produced in the mouths of those who had it, great pieces of superfluous and drivelling flesh (causing extensive putrefaction) which got the upper hand to such an extent that scarcely anything but liquid could be taken. Their teeth became very loose and could

be pulled out with the fingers without its causing them pain. The superfluous flesh was often cut out, which caused them to eject much blood through the mouth. Afterwards a violent pain seized their arms and legs, which remained swollen and very hard, all spotted as if with flea bites; and they could not walk on account of the contraction of the muscles, so that they were almost without strength and suffered intolerable pains. They experienced pain also in the loins, stomach and bowels, had a very bad cough and short breath. In a word they were in such a condition that the majority of them could not even be raised up on their feet without falling down in a swoon. So that out of seventy-nine who composed our party thirty-five died, and more than twenty were on the point of death. The majority of those who remained well also complained of slight pains and short breath. We were unable to find any remedies for these maladies.

"A post-mortem examination was made of several bodies to investigate the cause of their malady. In the case of many, the interior parts were found mortified, such as the lungs, which were so changed that no natural fluid could be perceived in them. The spleen was serous and swollen. The liver was woody and spotted without its natural colour. The vena cava, superior and inferior, was filled with thick coagulated and black blood. The gall was tainted. Nevertheless many arteries in the middle as well as lower bowels, were found in good condition.

"In the case of some, incisions with a razor were made on the thigh where they had purple spots whence there issued a very black clotted blood. This is what was observed on the bodies of those infected with this malady. Our surgeons could not help suffering themselves in the same manner as the rest. Those who continued sick, were healed by spring which commences in this country in May. That led us to believe that the change of season restored their health rather than the remedies prescribed."

From this narrative we will notice that there were surgeons in the expedition, and that they spent the winter with the others on the St. Croix Island. Their names are not mentioned. This is probably because of the very different status of physicians in those days; they were then, of course, nothing like the important members of an expedition that they are to-day. The surgeons, however, of this expedition conducted by de Monts and Champlain, were the first to visit this portion of Canada, and it is interesting to have a record of their post-mortem findings in the cases of scurvy.

Champlain writes that the party was obliged to use bad water,

and they drank melted snow, as there were no springs or brooks; for it was not possible to go to the mainland in consequence of the great pieces of ice drifted by the tide which rises three fathoms between high and low water. Work on the hand mills was very fatiguing, since most of them slept poorly and they suffered from insufficiency of fuel, which they could not obtain on account of the ice; and they had scarcely any strength. They ate only salt meat during the winter. The latter circumstance was in Champlain's opinion the partial cause of their maladies. As a result of that unfortunate experience the members of the expedition left the island in 1605 and went to Port Royal.

At Port Royal one of the surgeons was Deschamps of Honfleur and another was Master Stephen; both of these surgeons had scurvy to deal with and both performed post-mortems, but they were evidently not the same surgeons as those who came to New Brunswick.

Later on the history of St. John is prominently associated with the name of La Tour, both on account of the eminence of Charles La Tour and the bravery and beautiful character of Madame La Tour. Professor Ganong writes me that in his work in connexion with Acadian history he has found no reference to suggest the presence of a physician with La Tour, nor does he find or recall anywhere in pre-loyalist documents anything bearing on the subject, except what I have just mentioned.

The second visit of interest from a medical point of view was on the occasion of the foundation of the city. Previous to 1783 there were merely a few log huts, where the city of St. John now stands. On the 18th of May, 1783, there landed from twenty ships three thousand men and women, in June of the same year two thousand, and in September, three thousand. These men and women who desired to retain their allegiance to the British Crown, founded the city as it were in a day. Hence it is called the "Loyalist City," and the 18th of May is annually observed in commemoration of the landing of the Loyalists.

With the Loyalists came a number of medical men, seventeen of whom are mentioned in a paper by J. W. Lawrence. Several had held commissions as surgeons in the revolutionary war. Of these physicians a number remained in St. John, others went to various portions of the province, while others returned to their old homes. Among these may be mentioned Dr. Paine who, with others in 1785, presented a memorial to the Governor-in-Council, praying that a charter of incorporation might be granted for the

institution of a Provincial Academy of Arts and Sciences. This was the initial step in the movement that led to the foundation of what is now our Provincial University. Another was Dr. Samuel Moore, who has the distinction of having performed the first post-mortem examination in St. John and the following is his report to the Honourable George Leonard, J.P.:

"Sir,—Agreeable to your request I examined the black man's head, I am perfectly satisfied he was murdered, after examining where the fork perforated the temporal bone of the skull, I sawed off the arch of the head and found the ventricles of the brain everywhere impacted with matter. The symptoms before death were also very obvious. All the Jury were spectators. Your servt., Sam'l Moore. October 6th, 1798."

The last important visits in the history of the province to which I shall refer are those of the Canadian Medical Association. The Association met here for the first time in 1873, six years after its formation, when Sir James Grant was president and there were fifty-five members present. The next visit was twenty-one years later when Dr. T. O. Harrison, of Selkirk, was president, and one hundred and nineteen attended. And now the Association is meeting for the third time in our city, and we hope there will be four hundred members here. Among the names of those who were present on the former occasions and who are no longer with us, one may mention Graham of Toronto, Wright of Ottawa, Hingston, Buller and Bell of Montreal, Bayard of St. John, Parker and Farrell of Halifax, Muir of Truro, and MacLeod of Charlottetown. Surely these names are illustrious and revered in the annals of the Association.

It is interesting on looking over the records of the previous meetings to notice that a Dominion Medical Act, inter-provincial registration, and a uniform standard of medical education for the various provinces of the Dominion were among the subjects discussed, as they had been at earlier meetings and as they continued to be for many years.

The difficulties arising in obtaining Dominion registration, especially owing to the matter not coming within the jurisdiction of the Dominion government, were fully recognized, but it is now well known to us all that, after much patience and persevering efforts, the Canada Medical Act was finally brought into existence under the able leadership of our honorary president, Sir Thomas G. Roddick.

I would here take the opportunity of announcing to you, as Sir Thomas has requested, his regret at not being able to be

present. He wrote me that he had to attend the meeting of the Dominion Medical Council in Ottawa early in June and that he would sail for Europe immediately after the most important business had been transacted, but he deeply regretted his inability to appear at this meeting, especially so because since his appointment as honorary president, in Edmonton, he had never been well enough to attend a meeting to thank the Association for the great honour they had conferred upon him.

I am sure it is the deep regret of all members of the Association that the absence of the Honorary President is due to ill health, and it is the hope of all that the visit which he is making to one of the Continental spas will result in his speedy restoration to health. We heartily congratulate Sir Thomas Roddick on the high distinction recently conferred upon him by His Majesty, which has been well merited and well bestowed.

Another subject with which the early meetings here dealt was that of vital statistics. This, with a proposal for a department of public health under the Dominion government, has been constantly brought to the attention not only of the Association and of the government from that date to the present time with, so far, little or no result. From the history of the Canada Medical Act we must derive the lesson that movements of this kind succeed after persistent effort, finally are accepted and pass into law.

The establishment of a department of public health means so much to the state, it is a matter of such tremendous and vital importance, that the Association must continue its efforts towards prevailing upon the Dominion government to undertake this great measure of reform.

A great future lies before the Canadian Medical Association; the ground of its foundation is so firm and the reasons for its existence and extension are so substantial and vital that one need not fear for its success. From its own intrinsic worth it will move on, overcoming difficulties. It is destined to become one of the principal factors in influencing Canadian public opinion and the parliaments, and in bringing about changes and reforms of the greatest value to the health and well-being of the state and the individual. While for our comfort all this is true; it does not follow that our every effort is not required to improve the position of the Association and to put it in a foremost place at the earliest opportunity.

There are several particular requirements towards the accom-

plishment of which we should direct our special energies at the present time. There are about eight thousand medical practitioners in Canada. Of these eight thousand, fifteen hundred and twenty-five are members of the Association—one-fifth of the medical population. Here is an opportunity for missionary work. There are many to be brought into the fold. We must not forget, however, that the membership has grown materially in recent years, and perhaps a steady gradual growth is of a more permanent character. Nor must we fail to remember and appreciate the splendid work which has already been done by many members of the Association; far from it. It remains for us to be the torch-bearers, to carry on work well begun.

A largely increased membership, interested in the work and objects of the Association is one of the great desiderata of the Association, and it is for the members to exert their influence, so far as is possible, toward the consummation of this object. The membership should include a good representation of the two principal races in Canada. Last year the eminent Lucas-Championnière was invited to attend this meeting. He viewed with pleasure the prospect of meeting his French-Canadian *confreres* and he had the matter under consideration when death removed his notable figure from the medical world.

A second important requirement is the amendment of the Association's Constitution and method of organization. As time has gone on the organization of the Association has been developed in accordance with what has been found successful in the great medical associations of Britain and the United States and in accord with our ideas of what is most suitable to our special conditions. Thus the organization has extended to the affiliation of provincial associations and further, to some extent, to the medical societies within the provinces, although in the case of the latter it has not yet been carried out to any great extent, much as there is to be said in its favour and much as it is to be hoped for.

That the method of organization is yet complete and final, no one would for a moment suggest; on the contrary one would only expect that time and experience would cause changes to be made from time to time to adjust the Constitution according to the general view. I would therefore urge that we exhibit patience and forbearance in the matter of development of organization; changes which are made should apply equally, as far as possible, to all parts of the country. My view is that the plan of organization in a general way is most suitable and appropriate and that it is in the

best interest of all for the provincial associations to be affiliated with the central national society.

As the Association is the national medical society of Canada so are the provincial societies the natural representatives of the provinces and bear a similar relationship, and I cannot conceive of any organization so national and suitable as that in which the provincial associations are affiliated with the national. There can hardly be a more workable method of obtaining views of medical men all over the country, nor of considering or carrying forward any general measure initiated in a provincial association. The affiliation has a broadening and educative tendency which cannot be overlooked. As I heard someone say not long ago, "*Wir lernen von ihnen, sie lernen von uns.*" It would seem highly desirable that the connecting link be firm and close in sympathy and light and flexible in its organic connexion. The great strength of the British Empire is its sentiment which holds all its parts firmly together with a certain amount of common interest, and so it should be with our medical societies.

It is desirable to eliminate all that is unnecessary in organization and as far as possible all that may prove irritating or objectionable, and in this connexion it would seem desirable that when it appears to any of the provincial associations that some modification is needed, by all means it should be brought forward, thoroughly discussed, and adjusted to the satisfaction of all.

The provision in the Constitution that a provincial association in whose territory the meeting of the Canadian Medical Association is held shall for that year have an executive meeting only, is one that might easily be abolished, so that each provincial society can do as it sees fit in this matter. There is no principle at stake and no harm would result. Some provinces will prefer not to hold a meeting, while others no doubt will do so. However, the point, it is not a difficult one, can be easily dealt with, and does not require any elaborate argument. I venture to think that modifications can be made in the regulations which will be satisfactory to all and yet not interfere with the principle involved.

The Constitution and By-laws are in a number of instances rather contradictory and defective and it would seem desirable that a revision be soon undertaken. Were one asked the question, "When is the president not the president?" the answer might be, "When he is the president." For the first year, when president-elect, he is mistaken for the president more than half the time, while in reality he has no status; and during the year following

the meeting at which he has presided he is busy keeping out of the way of the president-elect, who is actively engaged preparing for the next annual meeting.

Members have spoken to me from time to time of their wishes in reference to the third requirement—that is, a weekly JOURNAL. The JOURNAL as it now stands serves a most useful purpose and is highly creditable to the Association. A more frequent publication, however, is particularly desirable, and should be kept steadily in view by the Association. It is essential for the well-being of the Association. The difficulty is financial. I trust the Executive Council will carefully consider the matter, and if possible formulate some plan whereby the wishes of the members may be met.

Last year an important movement affecting public health was instituted in Great Britain, under the auspices of the leaders of the profession, to prevail upon the British government to appoint a royal commission whose duty it should be to make a thorough inquiry into the subject of what has been termed the hidden plague, venereal disease, with the result that such a commission is now pursuing its investigations. The forthcoming report will be received with much interest and it is hoped that it will include practical suggestions for the diminution of this prevalent disease, prevalent, indeed, when one considers that the statement is made that there are 500,000 fresh cases of venereal disease every year in Great Britain, one quarter of these being in its gravest form.

The International Medical Congress, in August of last year, held a weighty discussion on this subject, and I might quote the resolution which was passed: "Sensible of the ravages wrought by syphilis in the health of the country, and deploring the inadequacy of existing facilities for checking its dissemination, the International Congress calls upon the governments of all countries represented, first, to initiate a system of confidential notification of the disease to a sanitary authority, wherever such notification does not already obtain; second, to make systematic provision for the diagnosis and treatment of all cases of syphilis not otherwise provided for." This resolution was said to embody the irreducible minimum of what was right for all civilized governments to do.

Sir Malcolm Morris who presided at the meeting pointed out that the general public were almost entirely ignorant of the vast prevalence of the disease, the ease by which it could be communicated, the enormous number of those who were its innocent victims, its grave consequences unless promptly and effectually treated, of the means now available for its diagnosis and treatment, and the

utter inadequacy of existing facilities for making proper use of these means. Even legislators imperfectly appreciated these facts. He thought that the facts when placed on record must be pressed upon the notice of all who claimed to be in any sense leaders and teachers of the people, statesmen and politicians, the judiciary and magistracy, the press, the clergy, the teaching profession, and the members of the local government boards. An end must be put to the silence in which the subject had too long been shrouded. It is having this unfortunate secrecy in mind that I venture to bring this subject forward to-day, in order to gain for it a little further publicity and a little further consideration.

Sir Malcolm Morris well said what a monstrous, staggering anomaly it was that they were confronted with in Great Britain. The state encouraged the notification of many infectious diseases, took charge of the insane, encouraged the authorities to build fever hospitals, carried out a rigid inspection of factories and work-shops, and in a thousand other ways stretched out its long arm to safeguard the health of the community; yet it did not lift a finger to protect the nation from so devastating a disease. These remarks apply with equal force to Canada.

While a system of confidential notification would be attended with considerable difficulty, especially at the outset, and while no doubt there would be much objection to it both in the profession and outside, it would seem a necessary step to take towards the successful handling of the disease, much as it is with tuberculosis, small-pox, and other diseases.

That there is inadequate provision for the treatment of syphilis, I believe we will all admit. All public hospitals should provide sufficient accommodation for such cases and readily admit them. Those who are unable otherwise to receive proper treatment should be encouraged to go to hospital. There are public hospitals in this country whose regulations forbid the admission to its wards of patients suffering from venereal diseases. This regulation is surely a misguided one and is not in line with the best thought at the present day. It is fair to say, however, that this rule where it does exist is not always implicitly observed.

It happens that at the present time the subject of the provision of public institutions for the care of the sick holds quite prominently the attention of people in this province. While therefore it is perhaps a matter of much less interest to other portions of the country, it would seem opportune to say at least a word.

The Jordan Memorial Sanitarium at Riverglade for the treat-

ment of early cases of pulmonary tuberculosis has been receiving patients for upwards of a year, and the formal opening of the institution is arranged to take place during the present month. It is a pleasure to have this opportunity of recognizing the benevolence and generosity of the lady who has provided a beautiful and well-equipped sanitarium. May her example prove a beneficent stimulus to the liberality of many others. That the further control and maintenance has been undertaken by the provincial government is a matter which has been received with much general approval and satisfaction.

The municipality of St. John is now undertaking the construction and maintenance of a home for advanced cases of pulmonary tuberculosis. The want of such a home is urgently and constantly brought before us, and its provision will give great comfort to the sufferers and great protection to the public.

And now the extension of the General Public Hospital is a problem that is being grappled with. The building is not the thing of beauty and a joy forever that some would have us believe. No, it is out of date, inadequate, cramped; not only does it lack accommodation for patients but the provision for laboratories and special departments is woeful. Of all public institutions which may be erected in any community, the most noble of all is the public hospital. Its cost should not be too carefully scrutinized, its equipment should be absolutely modern and its facilities such that everyone, but more especially the poor, could receive the best care and treatment available, in keeping with the scientific advances of the present day. Such an institution we hope to show the members of the Association when it next visits St. John.

Private infirmaries do not conflict with the larger hospitals, but supplement them and serve a most useful purpose, an excellent example of one has recently been added to this community and no doubt you will have an opportunity of viewing it.

Before concluding my address I wish to refer briefly to a branch of medicine in Canada which is deserving of commendation, and which I think has hitherto received but little notice—the Army Medical Corps. Previous to 1899 there was no medical service; each regiment had its own medical officer, that was all. At the present time there is an organized service of 700 medical officers and 1800 non-commissioned officers and men ready for the field and, as compared to the rest of the service, it is very complete.

The inspector general of the overseas forces, Sir Ian Hamilton, in his report on the military institutions of Canada, stated that

the medical corps keeps well ahead of every other branch of the service in the completeness of its preparations for war, a state of affairs due largely to the whole-hearted support it receives from the medical profession in all its grades. A militia is, or rather ought to be, the expression, for the purposes of war, of every form of national activity, and other departments of national life, such as railways, telegraph companies, motorists and motor-cyclists, and the unions might well take a leaf out of the doctors' book and set to work to organize themselves for the defence of the country. These words should give much satisfaction to the able Director-General of the medical services and to all connected with the corps so recently formed, and to the profession generally. There is, however, ample room for much further development and the medical profession of Canada can do a great deal towards assisting in the matter. As the establishment is unlimited, members of the profession, especially those who have recently graduated, can join the corps. In this way not only does one share a public duty, to be fairly assumed by all men, but the personal benefits are not inconsiderable; the physical training and discipline for a period of several years after graduation is to be recommended. The Army Medical Corps has acted as a school of instruction in sanitation in camps and has diffused more practical knowledge of sanitation than has any other organization in the country.

The national development of medical aid is of great service, whether in time of peace or of war, in connexion with either military or civil life, and not only does the Medical Corps participate in this development, but the successful progress of such organizations as the St. John Ambulance and the Red Cross Society does much towards fitting our men and women to render aid to the suffering at all times and under all conditions.

It is written in the Apocrypha, "Honour a physician with the honour due unto him for the uses which ye may have of him; for the Lord hath created him." Here is instruction laid down for the laity. To merit the honour, the medical profession has its obligations, and how may they be met? Remember the old Scotch words, "Tak yer auld cloak about ye." The cloak may appear perhaps a little old-fashioned and sometimes be put aside, but when brought out again it will still have the fragrance of lavender, it is our precious heirloom, the mantle of glorious tradition, splendid achievement and high purpose. Let us take it about us.

THE METHOD OF ZADIG IN THE PRACTICE OF MEDICINE

BY THOMAS McCRAE, M.D., F.R.C.P. (Lond.)

Professor of Medicine, The Jefferson Medical College, Philadelphia

MR. PRESIDENT and Members of the Association: It is first my pleasant duty to express my sense of appreciation of the compliment paid in being asked to deliver the address in Medicine. An honour under any circumstances, it must be regarded as particularly so by one who, living under another flag, is your fellow-countryman. "They change their skies but not their hearts who roam."

To some of you the title of my address will bring back a story which we read in our old school readers more years ago than perhaps we care to remember. To all of you it must be familiar, but as it serves for my text perhaps you will bear with its recital.

"Zadig is supposed to have lived at Babylon in the days of King Moabdar; disgusted with life, he is said to have fled from the city to a secluded retreat on the banks of the Euphrates, where he beguiled his solitude by the study of nature. A habit of careful observation, engendered by such a life, leads to the detection of many trifles which would otherwise escape notice, and these when correctly reasoned upon may lead to discoveries that seem most mysterious and are really marvellous. Strolling along one day near a small wood, Zadig saw hastening that way one of the queen's chief eunuchs, followed by a troop of officials, who appeared like men distraught, running hither and thither as if in search of some lost treasure.

"Young man," cried the eunuch, "have you seen the queen's dog?"

Zadig answered modestly, "A bitch, I think, not a dog?"

"Quite right," replied the eunuch; and Zadig continued: "A very small spaniel who has lately had puppies; she limps with the left fore-leg, and has very long ears."

"Ah! you have seen her, then?" said the breathless eunuch.

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"No," answered Zadig, "I have not seen her; and I was really not aware that the queen possessed a spaniel."

By an odd coincidence, at the very same time the handsomest horse in the king's stable broke away from his groom in the Babylonian plain. The grand huntsman and all his staff were seeking this horse with as much anxiety as the eunuch and his people the spaniel, and the grand huntsman asked Zadig if he had not seen the king's horse go that way.

"A first-rate galloper, small-hoofed, five feet high; tail three and a half feet long; cheek-pieces of the bit of 23-carat gold; shoes silver?" said Zadig.

"Which way did he go? Where is he?" cried the huntsman.

"I have not seen anything of the horse, and I never heard of him before," replied Zadig.

The grand huntsman and the chief eunuch made sure that Zadig had stolen both the king's horse and the queen's spaniel, so they haled him before the court of justice, which at once condemned him to punishment. But the sentence was hardly pronounced when the lost horse and spaniel were found. So the judges were under the painful necessity of reconsidering their decision; but they fined Zadig for saying that he had seen that which he had not seen.

The first thing was to pay the fine; afterwards Zadig was permitted to open his defence to the court, which he did as follows: "This is what happened. I was taking a walk towards the little wood, near which I subsequently had the honour to meet the venerable chief eunuch and the most illustrious grand huntsman. I noticed the track of an animal in the sand, and it was easy to see it was that of a small dog. Long faint streaks upon the little elevations of sand between the foot-marks convinced me that it was a she-dog with pendant dugs, showing that she must have had puppies not many days since. Other scrapings of the sand, which always lay close to the marks of the forepaws, indicated that she had very long ears; and as the imprint of one foot was always fainter than those of the other three, I judged that the lady-dog of our august queen was, if I may venture to say so, a little lame.

"With respect to the horse of the king of kings, permit me to observe that, wandering through the paths that traverse the wood, I noticed the marks of horseshoes. They were all equidistant. 'Ah,' said I, 'this is a famous galloper.' In a narrow alley, only seven feet wide, the dust upon the trunks of the trees was a little disturbed at three and a half feet from the middle of the path.

'This horse,' said I to myself, 'had a tail three and a half feet long, and, lashing it from one side to the other, he has swept away the dust.' Branches of the trees met overhead at the height of five feet, and under them I saw newly fallen leaves; so I knew that the horse had brushed some of the branches, and was therefore five feet high. As to his bit, it must have been made of 23-carat gold, for he had rubbed it against a stone, which turned out to be a touchstone, with the properties of which I am familiar by experiment. Lastly, by the marks which his shoes had left upon pebbles of another kind, I was led to think his shoes were of fine silver."

This story is one which may well be pondered by every practitioner and student of medicine for much of our daily task consists in carrying out this method and our success or failure in diagnosis depends greatly on how successfully we do it. It was the custom of Sir William Osler to read this story to each class as an introduction to the study of observation and diagnosis. The importance of this method in the advancement of medicine has been discussed by Dr. Balfour* and to-day its value in the practice of medicine, and especially in diagnosis, will be considered. There are many followers of Zadig described in fiction, of whom perhaps Sherlock Holmes is the best known. Poe also was attracted by the possibilities of this subject. To the reader of fiction such stories always appeal, and why a detective story should have such a fascination for the majority of us is an interesting subject of enquiry. There is the charm of the unknown and mysterious, the problem of the setting of the powers of observation and reflection against a mystery and the knowledge that at the end of the story we are to have the solution. We have such problems as part of our daily task and our work may be regarded as much like that of the criminal detective. He has a general knowledge of the members of the criminal class; we of disease in general. He knows that certain men have certain methods of work; we know the features of special diseases. It is stated that the police can classify habitual criminals more or less by their methods and, knowing the men in their city who work in a particular way, can narrow down the possibilities of a given crime to a few men. This may be described as the natural history of crime. So, too, we in medicine narrow down the possibilities. But sometimes both doctors and police are puzzled by conditions which do not fall in with the usual manifestations and cannot be classified very readily. The analogy may be carried further, for as the public

*On the Method of Zadig in the Advancement of Medicine. *Edinburgh Medical Journal*, 1900, VII., p. 200.

are often impatient over crimes which cannot be brought home to the guilty parties, so with us they may have similar feelings when we are unable to make a diagnosis promptly.

It is evident that much of the beauty of Zadig's method and the demonstrations of Sherlock Holmes consists in the fact that they work out correctly. Should they come out incorrectly the statements would sound silly. Think of a Holmes story with wrong conclusions.

The essential factor in this method consists in working back from observations of conditions to the causes which brought them about. It is often a question of deciding the doings of yesterday by the records found to-day. It is very evident that in this we have two main processes to bear in mind and keep strictly distinct, first, the collection of the observations, and second, the inferences to be drawn from them. Keeping these separate is essential to any orderly solution of our daily problems, but how difficult this is for the majority of us is brought home to every teacher. Take a group of students who are working at physical diagnosis and it is a constant struggle to keep them making observations and not giving inferences—usually from insufficient observations, if from any at all. No pains are too great to hammer home into the mind of every student the importance of keeping these two processes separate and not taking up the second until the first is as complete as he can make it. It is just as important for the practitioner as for the student, except that in the latter we are trying to form correct habits; the practitioner should have them. Some teachers are to blame in this regard. The writer once listened to a clinic in which a patient with a retracted chest following empyema was brought in. To the teacher's enquiry of "What do we see here?" the student made no answer. The professor answered his own question with "Fibroid lung." Well, perhaps he did see it—with the eye of faith, but that is not a good eye to use alone in diagnosis—and the student, if he saw with the same eye, could not give reasons for the faith that was in him.

It is an interesting subject of discussion as to whether, having made a mistake, there is any choice between the first and second division. Which is the worse error, to fail to observe certain conditions, or to observe them and interpret them incorrectly? In the writer's opinion the first is much the worse error. Observation is a matter of patience, training and thoroughness, in all of which a man may improve himself, but the use which he makes of his observations is partly a matter of his mental equipment. True he

can train his powers of thought and judgment to some extent, but we vary greatly in the quality of our cerebral cells, and the saying of the father of medicine, "Experience is fallacious and judgment difficult," is always true. To observe correctly and decide wrongly is sure to happen to the best of us, but to observe carelessly happens only when we permit it. Perhaps it is not entirely within our power always to prevent this. There are times when the keenest mind seems to miss what may be obvious. The routine of seeing a patient every day may dull the perceptions and what is startlingly obvious to a fresh eye may have escaped observation entirely. Yet here sometimes, perhaps often, it is because there has been a lack of searching rather than a lack of reflection. It is evident that if the first stage—the collection of the facts—is improperly done, we have not the basis for the second and it is bound to be wrong. The game is hopelessly lost from the start. How important, therefore, to give every effort to the collection of our facts.

It is essential, as already said, to keep in mind the two stages of the process—the collection of the facts and the inferences to be drawn from them. Let us discuss first the collection of the observations. How can a student best be trained to do this and how can a practitioner improve his capabilities of observation? If one has started properly as a student, his training as a practitioner goes on more or less automatically. Many of us may not have learned it as students and have, so to say, to educate ourselves. In this there are two principal things to be considered, first, the importance of method, and second the importance of inspection.* The acquirement of method is more or less possible for us all. Some few have it by inheritance and deserve no credit; for the majority it is a matter of hard discipline. It is only by adhering rigidly to a definite routine with patient after patient and day after day that a proper reflex can be obtained. The value of this can be illustrated both by history-taking and physical examination. In the former many points are brought out which are missed if routine questions are not asked in regard to every system of the body. Examples of the importance of routine examination occur to all of us; in how many cases does a routine examination of the urine give information of value; how often does a routine examination of the eyes give a clue to the diagnosis? It is a favourite saying of the laity that such and such a doctor can make a diagnosis at a glance. There

* It is hardly necessary to say that to lay emphasis on inspection is not to diminish the value of the other means of examination, but the man who inspects thoroughly is rarely wanting in the other methods.

never was a greater mistake. The principal difference between a good and a bad diagnostician is usually a matter of thoroughness and method. Brains count, of course, but the man who has not collected his facts has but little chance to use his brains.

In the beginning one has to determine that every point is going to be investigated in regular order, and it is important that this order should be invariable, for if one switches about from one routine to another many things will be missed. Take, for example, examination of the head; general features are noted first and particular ones second. It makes no difference whether the eyes or ears are examined first, but the order should always be the same, for if one is accustomed to examine the ear first and the eye afterwards and with a given patient begin with the eye, the ear may readily be overlooked. A haphazard method usually goes with slipshod observations and careless thinking. To practise order and system requires steady adherence to a given plan until the order of events becomes unconscious. With training one observation follows another without any effort and a glance will do what formerly took repeated observations. The student or practitioner has to keep himself to the routine of noting point after point in its order and not to be tempted to look into some interesting condition first. There are some curious instances of this, as, for example, the recognition of precordial bulging. If this is not done at the onset of inspection—if a wide impulse or some other point catches the attention first—it will very rarely be done subsequently, unless some other sign demands its reconsideration. It may be said that this is unnecessary devotion to details but no detail is too small to be worthy of attention. Take for example the examination of the ear. It would be interesting to know how many patients there are to-day whose diagnosis has not been correctly made because a tophus on the ear has not been seen. If a man made a correct diagnosis of gout and cleared up an obscure case once in five years, would it not be worth a glance at the ear in every patient? Take also the recognition of a discharge from the ear. How many of the profession are there who have not been surprised and chagrined to discover that a patient had an unrecognized aural discharge for days after he had been under observation.

The importance of this routine examination is not only for present diagnosis but also for the future. An illustration of the importance of this and of careful observation may be given. A man aged fifty years began to show nervous symptoms which need not be entered into fully. He consulted a number of neurologists

who hesitated to express a definite opinion but all feared an early stage of general paresis. This was some years ago before the days of the Wassermann reaction and spinal puncture. A most important sign in his case was the fact that his pupils were unequal. The uncertainty of the diagnosis worried him greatly and his condition became progressively worse. One day, while talking to an old physician who had long been a friend of his family but had never attended him professionally, he was giving an account of his symptoms and stated that the point which especially bothered his physicians was the persistent inequality of his pupils, to which the old man answered: "You have had that since boyhood, to my knowledge." With this point settled the doubt in regard to diagnosis was removed and the patient made a rapid recovery. In this case neither the man himself nor his wife had ever noticed the inequality. His own physician had never noticed it until the necessity for a special examination arose. Such instances are not rare and the curious inability to see things which are before us will be discussed later under the heading of inspection.

The importance of *inspection* cannot be over-estimated, but its value is often not appreciated. Ask a medical student at the end of his first course in physical diagnosis which of the four methods—inspection, palpation, percussion, and auscultation—seems to him the most important, and the most common answer is auscultation, unless his instructor has been a disciple of Zadig. This is natural, for while he has been accustomed to using his eyes—carefully or carelessly—all his life, the use of the stethoscope comes as a new experience and appeals to his sense of working with some kind of apparatus. The value of inspection is twofold, both in the information it gives of itself and the fact that it starts one right in the further methods of examination. No average man can be a good diagnostician if he begins his examination by percussion or auscultation. The word average is used because there are some men who are superior to method although they would be better with it. It is not so very rare for a complete error to be made in the side of the chest in which a tuberculous lesion is situated. To begin percussion on the diseased side may give a false standard and it is in avoiding this that inspection so often comes to our aid. As regards our knowledge of cardiac disease the writer feels that we would be much more efficient in diagnosis (as regards the essential state of function), prognosis, and treatment if we did not listen to a heart say for five years after graduation but obtained our knowledge from inspection, palpation, and percussion. Like

all sweeping statements there are exceptions to this but it is surprising, if the effort be made, how much can be determined without the use of the stethoscope. Certainly as regards treatment the indications are based better on the means of examination other than auscultation. The old direction, "Eyes first, hands next, ears last and least" is an excellent one to keep in mind.

In the recognition of one class of diseases inspection is particularly important. The reference is to the disturbances due to disorders of the glands of internal secretion. We are learning of the frequent occurrence of these cases and for many of them the first suggestion of the diagnosis must come through our eyes. There is no better example than the condition of status lymphaticus in adults to which special attention has been drawn recently by Haven Emerson.* Here is a clinical picture which once appreciated, seems to be frequently coming before our observation. I fancy that this is much like the common experience with a new phrase or word to which our attention is directed. We are always meeting it and we wonder how we failed to see it before. The eye has been trained to see it.

"The eye sees only what it is trained to see." This is a matter of daily example. The impression falls on the retinal eye but not on the cerebral eye. No instance of this impresses me more than to look up a busy railroad yard at night when the signal lamps are lighted. To me they are so many coloured lights, but little more. To the engineer they chart his course and every one carries a plain message. Yet the impression on his retina and mine is the same. Somewhat of the same is seen if one rides on a locomotive at night. The engineer picks up the signal lights ahead sooner than the passenger. This, of course, is partly due to his knowledge of where the lights are situated but greatly to his eye seeing what it is trained to see. Reverse the conditions and put the engineer in a hospital ward. He sees a sick man, recognizes that his breathing is laboured and distressed but nothing more; to the physician the whole condition is clear; he knows the signals along this track. How many eyes—yes, and skilled eyes, too—looked at the thorax and never saw the so-called Litten's sign or diaphragm phenomenon? Many of us look at it every day and fail to see it, even after we know about it. How often does the diagnosis of a thoracic aneurism go begging for want of a careful glance?

It is tempting here to digress for a moment to refer to two neces-

* *Archives of Internal Medicine*, 1914, XIII., 169.

sary preliminaries before inspection can be thorough. These are sufficient light and the exposure of the part to be seen. We would not try to take ordinary photographs without sufficient light yet we constantly try to take the more important visual and mental ones without it. Then as to the second matter, the exposure of the part to be inspected, it seems absurd to dwell on it did not experience prove the contrary. How many chests are examined through the clothing or with the shirt tucked up and important points missed? The effect of this slackness in examinations for life insurance has been emphasized by Greene,* especially as regards tuberculosis and cardiac disease. It is as sensible to try to read the contents of a book through the cover as to hope to inspect when the area is not exposed.

How can a man train his powers of observation? By use, may be answered, but this is not everything. Use may be careless and lead to deterioration rather than to improvement. It must be a use which involves proper method and thoroughness. For some of us the training which was given to Kim in Kipling's story of that name may be helpful. He was trained for work in the secret service in India and at one stage under Lurgan Sahib he was allowed to look for a minute at a tray which contained various objects. It was then covered and he was required to detail what was on the tray. To Kim's enquiry as to how another had attained greater accuracy than himself in doing this, the answer was, "By doing it many times over till it is done perfectly—for it is worth doing." We might all carry this around as a daily reminder.

Daily life offers many chances of practice. How careful a description can you give of the personal appearance, clothing, etc., of the last patient who consulted you? If he had been a thief who walked off with something from your office could you give the police a description which would help them to capture him? The people we meet on the street, those in the street cars, all with whom we come in contact may serve as subjects. It may be objected that this is unnecessary and tiresome, perhaps using up mental energy on things of no special importance. But nothing which trains the powers of observation can be unimportant, and far from being tiresome it adds to the interest of the day. "Strive to be one of those upon whom nothing is lost," said a wise teacher. To endeavour to make out as much as possible about those about us from observation alone is an interesting study. Besides it is using

* *Modern Medicine*, first edition, Vol. VI., p. 758.

a part of our mental equipment which some of us leave unused. It demands observation and reflection. We remember the bewilderment of Watson when Sherlock Holmes made what seemed to be marvellous statements about his doings, and his surprise at the apparent simplicity of the methods.

But with this outside training—if it may be so called—must go the steady day by day observation of our patients, and with this there must be an honest reckoning of our mistakes. No part of the training is more essential. We all know the man who has made an incorrect diagnosis, but who, before the operation or post mortem is over, has nearly convinced himself that he did make the correct diagnosis and before night is quite sure of it. For him no good has come from the lesson. To learn we must face the mistakes and try to find out why we made them. Then comes our gain. In this connexion is an excellent saying, "It is easy to be wise after the event, but very difficult to be wiser," which can be illustrated by an example. A patient dies in whom you have made a diagnosis of typhoid fever, and at autopsy miliary tuberculosis is found. You are *wise* after the event but the laboratory *Diener* or a first year student is just as wise as you. To be *wiser*, or in other words to lessen the chance of your making the same mistake again, is quite another matter. You will certainly be no wiser if you have persuaded yourself that after all you did think it was miliary tuberculosis. For one's own training it is better to make an incorrect diagnosis than none at all—if you call yourself to account afterwards.

The second part of my subject—the inferences to be drawn from the observations—is a very different matter. Here the possibilities of error are much greater and what seems a simple diagnosis may involve complex inferences. A frequent mistake is to fail to recognize that there is any question of inference and to think that physical signs give a diagnosis directly. Take for instance the combination of diminished expansion of one side of the thorax, increased vocal fremitus, dulness and tubular breathing. We may say that we observe lobar pneumonia but we do not—that is only an inference which may be wrong.

No one can give rules for methods of thinking but it is possible to carry certain principles into operation. One is to strive to be delivered from hasty judgments. "Men see a little, presume a good deal, and so jump to the conclusion." How common this is needs only a little study of our mental processes. In some this is a habit, in others a fault of education. Take for instance the men

for whom the hearing of crepitant râles has only one meaning—pneumonia; not uncommonly the same man never grants the presence of pneumonia in the absence of such râles. Another point is to endeavour to cultivate the habit of orderly thinking exactly as of orderly examination. This should be within the power of the majority and is worth every effort. As a rule it is possible in a problem of diagnosis to state all the possibilities and by exclusion narrow them down to one, possibly to two or more. In the latter event it becomes a matter of deciding as to probabilities and even if we do not decide properly, at any rate we know the problem and are better able to know subsequently why we erred if we go wrong. Otherwise it is usually a more or less haphazard process of guess work. The assembling of possibilities and excluding one after another has all the delights of an intellectual game. Sometimes we are saved from error by our lack of knowledge of the finer points of the game. I well remember a fellow house-officer and myself being much interested in the diagnosis of an obscure abdominal condition. We went over it from every side and to the best of our ability, coming at last to a diagnosis. The attending physician was much interested and examined the patient very carefully, at last making a diagnosis which had never even occurred to us to consider. He suggested a rare condition which neither of us had ever seen but we felt that consideration of it should not have escaped us. We were in a very humble frame of mind until the operation showed that our diagnosis had been right. It was so principally because the rare condition had not come to our minds. The moral of this is not that ignorance is an advantage. But some of us are too much attracted by the thought of rare things and forget the law of averages in diagnosis. There is a man who is very proud of having diagnosed a rare abdominal disease on several occasions. But as for some years he made this diagnosis in every obscure abdominal condition, of course being nearly always wrong, one cannot feel that he deserves much credit.

You may say, and properly so, that this address has dealt with simple things. But it is the simple things which require to be kept constantly before us and which must form the foundation of our diagnostic ability. I feel very strongly that it is the duty of teachers of medicine to insist on their students learning the simple clinical methods thoroughly and to impress them with the view that nothing can take the place of our own powers of investigation. The advances on the laboratory side and the perfection of instruments have added much to our powers of diagnosis, but they have given some

men the idea that they are everything and the use of one's eyes and hands is looked on as old-fashioned. The man whose first idea in an obscure thoracic case is to have an x-ray plate taken and who cannot "bother" with physical signs does not deserve the name diagnostician. The safety with which the abdomen can be opened has led many men to neglect the principles of abdominal diagnosis for the short cut of an abdominal exploration. Many men are not willing to make the effort to arrive at a diagnosis by more laborious methods. Two examples of this are in my wards at this time; one man has had three abdominal sections in the effort to discover the source of his abdominal pain which a thorough physical examination would have shown to be a spondylitis with referred pains; the other has tabes with severe gastric crises, and his abdomen was opened by a surgeon who made the statement that a laparotomy was the quickest way to make a diagnosis. It was not in this case. To my mind accurate habits of working and thinking are a great safeguard against these supposed short cuts to diagnosis.

It is easy to criticize and point out the faults of others. The more we study our own errors the more sympathy we have for the mistakes of others. We should all have the desire to reduce our errors to the minimum and to eliminate entirely those due to careless observations and slovenly habits of thinking.

To observe accurately, to reason clearly, to hold ourselves to as high a standard of efficiency as our equipment permits, are within the powers of all. The development of these depends on the man himself, and in this we may all be aided by a study and imitation of the methods of Zadig.

THE TREATMENT OF PUERPERAL INFECTIONS

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IF we study the subject of treatment of puerperal infection from an historical point of view we are struck with one fact, namely, that the tendency is to pass from the more heroic forms of attack to the milder forms of treatment. There has been a gradual slow change from sharp curette to dull instruments, later a slow substitution of digital removal for the instrumental cleaning, and lastly the abandoning of the manual invasion for the douche cleansing method, and to-day that conservative tendency is making itself still further felt in a policy of total abstention from interference. The pendulum often swings too far in its search for the proper level and it is our duty to help by our experience to bring it to its level as soon as possible.

In order to facilitate the treatment of the subject of puerperal infections it will be found advantageous to deal with the cases from two standpoints, firstly, cases which immediately after delivery present complications which are supposed strongly to predispose to infections, namely, cases of retained membranes or placental portions and secondly, cases which are already infected, therefore several days *post partum*. The treatment in the first group we may speak of as preventive, for want of a better term, that of the second group as curative.

Let me first place a hypothetical case of the first group before you and then discuss its treatment: A woman has just been delivered of her child at full term. The placenta comes away leaving all or part of the membranes within the uterine cavity; hæmorrhage negligible. There is probably no subject which has given rise to such bitter controversy or a more fruitful subject of polemical writings than which arises out of such a case. To-day Paris, which I consider the obstetrical Mecca, is divided into two hostile camps. The one contends that the membranes should be removed immediately by curette or finger, the other that the uterus should

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be left alone for twenty-four hours and then the membranes removed with the *couvillon*, a type of brush such as is used in bottle-washing. The conservative treatment of to-day differs very widely from either of these schools. We do not hesitate to state that we never interfere for retained membranes. From this statement we do not wish you to infer that whether or not the membranes come away with the placenta is a matter of indifference to us. We must recognize the fact that such functionless tissues are a source of danger to the patient, but it is our object to minimize that danger. The real question is not whether we should interfere and remove these products, but whether the dangers of interference are not greater than those of a policy of *laissez-aller*. My experience leaves no doubt in my mind that the proper course to adopt is to refrain from any form of treatment which entails invasion of the uterine cavity. You may ask what will happen to the membranes. They may be cast off *en masse* a few hours after delivery, or they may never be seen, but come away as small, partly digested white flakes. The involution is seldom retarded by their presence, nor is hæmorrhage a pronounced symptom. My treatment consists in sitting the patient up in bed, removing all vulvar pads and perineal binders, placing the patient on a sterile pique, and administering continued small doses of combined ergot and strychnine, or repeated small doses of pituitrin. An ice cap to the fundus is often of great service. Let me quote a few very recent cases:

CASE 1.—A threatened eclamptic, weight 196 pounds; twin pregnancy; delivery by version of second child. One placenta and its membranes came away, but the other placenta rimmed and all its membranes remained behind. Recovery uneventful, except that involution was slower than normal. This may have been due to her eclamptic toxæmia. No trace of the membranes with lochia.

CASE 2.—Young woman, child $10\frac{1}{2}$ pounds, piece of membranes size of adult hand missing. Hæmorrhage negligible; treatment as outlined above. Membranes came away *in toto* four hours after delivery.

CASE 3.—Primipara with gonorrhœa and numerous chancroids of the vulva; inguinal adenitis. Her employer telephoned me about this maid and without having seen her I sent her to the Maternity. The superintendent telephoned me that her condition was serious and would I come over at once, for he was in doubt as to whether she should be admitted into the hospital in that state. The vulva was swollen enormously, the large ulcerating chancroids were covered with a grey membrane, and a thick fetid greenish

discharge issued from the vagina. I immediately sent her to my ward at the Victoria where, under treatment, the condition cleared up in about twelve days. She then went into labour. It was slow with irregular pains over forty-eight hours. When the membranes were ruptured the amniotic fluid was infected and fetid. The child was born with a purulent vaginal discharge. The placenta came away with total absence of all the membranes. The appropriate treatment was instituted. The uterus involuted more rapidly than usual and she left the hospital on the twelfth day.

CASE 4.—Primipara brought to hospital in labour, temperature for three days of 101° to 103° . She gave birth to a dead macerated child a few hours afterwards. Membranes retained complete. Temperature became normal on the fifth day and no trace of the membranes was seen.

I could multiply such cases, but enough has been given to illustrate my course of action with its results. What is the subsequent course of such cases? So far I have seen no after-effects that would induce me to alter my plan of campaign, nor have I any regrets. There is no tendency to subinvolution as was formerly so warmly contended.

If we pass now to the second hypothetical case we come closer to our difficulties. A woman has just been delivered. The placenta comes away torn; a portion remains *in utero* with or without membranes. What is our present form of treatment? Here is a subject which, in sporting terms, will "get a rise out of" most men. Still the plan is one of masterful inactivity and the treatment is the same as in the above-cited cases, with this one exception, that though in practically all cases of retained membranes the hæmorrhage is quite negligible, it is not always so in retention of a portion of placenta. The presence or absence of this one symptom—hæmorrhage—should be the factor in determining interference or non-interference, respectively. This certainly will appeal to most as simplicity itself, but it is so only at first sight. If hæmorrhage is a feature, we have to bear in mind that we are dealing with non-infected cases, and the removal can be carried out with impunity or not, just in proportion to the degree of correctness of our aseptic technique and the general state of the patient at the time.

Broadly speaking, we should elect to remove immediately where there is hæmorrhage and the patient's condition is good. On the other hand, we should stand fast for immediate packing if circumstances are not favourable to removal. Whether or not we

will so remove the placental portion after removal of the packing in twenty-four hours will depend again upon the presence or absence of hæmorrhage. The great determining factor must be the patient's general condition, Has she been exhausted by the labour? Is the heart's action rapid, and has she been weakened by hæmorrhage? These are factors which must be placed in the balance to decide whether we will remove or whether we must merely pack the uterine cavity. Let me here quote a few cases:

CASE 5.—Twin pregnancies; portion of second placenta, a piece seemingly the size of a hen's egg, retained; hæmorrhage brisk. Patient very weak after long labour. Packed uterine cavity solidly with gauze and administered pituitrin. Hæmorrhage checked. Removed packing in twenty-four hours. Placental mass expelled with clot a few hours later, uneventful recovery.

CASE 6.—Multipara, seen in consultation, a cotyledon of placenta missing. Hæmorrhage negligible. Non-interference. Mass came away within twenty-four hours with considerable clot.

CASE 7.—Seen in consultation. Her physician delivered shoulder presentation by version. Retained placenta with hæmorrhage. Patient exhausted, he decided to pack the uterus. Stimulated patient, gave her plenty of fluids, and in twenty-four hours gave her an anæsthetic and removed the packing and placenta manually. The latter came away piecemeal and he states definitely that he did not get all away. She ran a temperature of 102° , pulse 140 for five days afterwards. He then called me in consultation to know whether he should curette to remove the balance of the placenta. I strongly advised against it. Hæmorrhage was practically nil. Uterus was large but firmly contracted. Temperature has slowly subsided and patient is making a smooth recovery.

So the plan of treatment is very simple. In cases immediately *post partum* we do not interfere for retained membranes, whether or not they are infected, and in cases of retention of portions of placental tissue our plan is one of masterful inactivity unless hæmorrhage enters as a marked feature. If hæmorrhage is abundant, we elect either to remove the placental remains or pack the uterus, and the general state of the patient will determine the one or the other.

The second group of cases constitute the real vital subjects of interest, namely those all too common cases where infection makes itself manifest after the third day *post partum*. The hypothetical case is as follows:

Multipara, delivered four days ago, membranes and placenta

came away complete. Chill and fever on third day, uterus large and tender, cervix soft and patulous, lochia ceased with onset of infection. Grey membrane over cervix and perineal tear. Or let us suppose that the membranes were incomplete and a portion of the placenta retained, but that in other respects this case is similar to the former. Hæmorrhage is a negligible quantity. Note that in the first case there is nothing retained and in the second there is definite retention of secundines.

I will not exaggerate when I state that not more than a year ago we took it without question that when such a case was brought to the hospital, it demanded active surgical interference. In the confusion which filled our minds, infection almost implied retention of products of conception, and almost every case was submitted to anæsthesia and exploration where there was any doubt on the subject, and even where there was no doubt. Only those cases escaped which showed signs of extra-uterine involvement. There are, even to-day, some of the greatest authorities who adhere to this plan of treatment. In my own experience, two years ago such a case presenting a large soft uterus, and particularly a patulous os, was a fit subject for the operating table.

These signs, namely, the large boggy uterus and the patulous soft cervix, were indications of retained products which must be removed, and the sooner the better. With what a toll we have learned our lesson! How many of these cases have we not explored only to find blood clot and perhaps a morsel of placenta or of membranes to justify our procedure, and how often, too, have we not seen the case greatly aggravated by this so-called harmless digital exploration and still less harmful intra-uterine douche! This is a time when we can stand on the white sheet of repentance and confess our mistakes. We all know that the large, tender, boggy uterus is not the result of retained products, but merely the expression of an acute infective process. I can only too readily recall the many cases in which not only a marked aggravation of the disease, but also an exitus rapidly followed this so-called innocent surgical procedure. By a gradual process we have learned the infinitely better results of a symptomatic and sustaining treatment. To-day the condition of the uterus and of the cervix plays no part in the course of the treatment. We do not interfere even though we know that there are infected products inside. And in this we are following along rational surgical lines. I care not what the condition of the uterus may be, provided there is proper drainage. Who of you would curette an acutely inflamed wound? It used

to be done, and how frequently have we not seen a local infection thereby converted into a general septicæmia.

Yet men to-day at the top of their profession, authorities of international repute, still advocate it. Are there any among you who in the light of your present knowledge would wash out a pyothorax or an abscess cavity? No, you are content to relieve tension and establish drainage. We wish only to bring the same rational treatment to bear upon the septic uterus. Establish proper drainage, let nature separate the slough, and trust to the recuperative powers of your patient, maintained and strengthened by hygienic, dietetic, and static measures, and she will survive or succumb just in proportion to the strength of her resistance to the virulence of her infection.

We now look upon the placenta in such cases as a slough which will come away piecemeal or *en bloc* according to the case. The presence of the piece of placenta or membrane is not the cause, nor even the predisposing factor in the infection, but is merely an associated accidental occurrence. It is not the infection that lies within the placenta that is the menace to the patient, but it is the infection within her own uterine wall. We find that the presence of retained products, as stated above, is but an associated factor. In the vast majority of such cases, infection has been introduced by manipulation by unclean hands or by instruments, in a word, by improper technique. The placental tissue has not been a predisposing factor, nor is its presence a menace or an aggravation of severity of the infection. It is a striking fact that the vast majority of cases which have died from sepsis present at autopsy a completely clean uterine cavity. Let us look at the matter in quite another way. The percentage of cases of retained placental portions in all labours is relatively very small, variously estimated at 0.2 to 1 per cent., yet the number of puerperal infections in hospital practice is well over 5 per cent. Therefore in 4 to 4.8 per cent. of the infections placental retention did not enter as a factor in the production of that infection. Yet had there been retention in any of this large percentage it certainly would have been held as a cause and not as an accidental association.

The fact remains that they get well in spite of their placental retention, and in much larger numbers than when surgery is called into effect. The curette, invented by Ohlshausen, became almost at once the cure for all intra-uterine pathological conditions. The older schools curetted the uterus as a routine part of any and every gynecological operation. To-day it is relatively seldom

used. Perhaps the pendulum has swung back too far, but certainly not so in puerperal cases. To my mind the curette in such cases cannot be too harshly condemned. To curette a septic uterus is about as logical as to curette the throat and tonsils in acute angina. Yet that was done and found its staunch advocates in its day, and if I can forecast, curettage of the septic uterus will be as frequently done as is curettage of the throat nowadays in acute infection. As the dangers of this procedure, with its appalling death roll became fully understood, a less drastic measure was called into wide vogue, namely the dull curette in order to cause less abrasion and denudation. The result of these forms of treatment was to open up millions of new avenues for the entry of infection and its dissemination at least throughout the uterine walls, if not throughout the whole system.

I was called to a city not many months past in consultation in a case of puerperal septicæmia. The doctor has had a good training and is far above the average. He told me that he had curetted his case thoroughly three times and that she had a lowering of temperature for a few hours after each curettage. This was the one justification for his *modus operandi*, but I am convinced that he converted what would have been a mild local infection into a general septicæmia, and when I saw her she was beyond hope. Such treatment you will think worthy of the highest condemnation, yet there are hundreds to-day who would use and are using the curette, perhaps not thrice upon the same case, but at least once. But fortunately many have abandoned the curette to use the finger. This is but a further step towards conservatism. It is looked upon as almost harmless. In my experience it has proved most hurtful, and as it is generally followed by an intra-uterine douche, its baneful results are increased. You cannot explore with the finger the recently parturient uterus without inflicting a great deal of traumatism. I defy any surgeon or gynæcologist to explore the uterus with the finger, and particularly to remove placental tissue, without using a great deal of force, both over the fundus and *per vaginam*, in order to bring all parts of the uterine cavity into contact with the examining finger. What is the result? The procedure is followed by recovery without fever or by a severe chill after which the temperature falls to normal, or there may be a chill followed by all the signs of general infection with or without recovery. What has been accomplished? It will well repay us to stop and analyze the subject a little. If recovery takes place after a digital removal without the manifestation of signs of sepsis such as fever and chills,

it simply means that the infection was confined to the endometrial surface, therefore an innocuous infection which the finger and the subsequent douche and packing removed. The procedure was unnecessary, for if left to nature she would have done the work with less danger to the patient.

If the patient has had but a low temperature and slow pulse prior to exploration and immediately afterwards has a chill with subsequent return to the normal, the infection was a low grade one which did not cause the patient to react, the manipulation of the uterus threw a large amount of toxins or vaccines and living organisms into her system, and her reactive powers rose to meet the infection. But we cannot estimate the nature nor the virulence of the organism, and a large percentage of our cases will not be able to bear the burden of this surcharge of organisms and the local condition will become a fulminating septicæmia. We have no means at our disposal to determine the virulence of organisms. We have no means of knowing which case will recover and which will not recover after operation. Cultures help us very little if at all. The presence of saphrophytes with their characteristic odour is no proof of the innocuity of the infection. Such cases are always mixed infections. Therefore fetidity does not help us either. The hæmolysing properties of streptococci upon blood was thought to be a potent factor in determining their pathogenicity. But this has been abandoned by the best authorities as thoroughly impractical. I repeat we have no means at present of distinguishing between virulent infections which, if tampered with, will at once cause septicæmia with stormy convalescence or death, and other infections less virulent which are often cured by being stirred up.

Has it ever occurred to you how frequently these cases which have been explored digitally first develop chills and then lung involvement? Did it ever occur to you that, loosened by the manipulation of the uterus under anæsthesia and by the relaxation of the uterus under manipulation, small septic thrombi are set free and find lodgement in the lungs? Such really is the case. How much greater is the danger when there are already signs of thrombophlebitis! No one when such signs of thrombophlebitis are present would think of invading the uterus lest he should dislodge the thrombi. Why, then, invade the uterus where these symptoms and signs are not present but where the condition may be present nevertheless? We all know that there can be widespread thrombosis of the pelvic uterine veins and of the ovarian veins almost to the vena cava without any signs whatsoever. I have now under

study with Dr. Kaufmann the organs from twenty-two cases of puerperal infection. The extension of the disease as revealed by microscopical and macroscopical examination is always by one of three routes: first, by lymphatic extension in which we get a large tender uterus with the lymphatics (or small obliterated venous spaces, I cannot tell which) filled with leucocytes, oedema and a concomitant or secondary thrombophlebitis. The second type shows a smallish uterus with extensive involvement of the blood vessels of the uterine wall and broad ligament. The third type shows extension along the Fallopian tubes and secondary peritonitis. It is seldom except in the third class that thromboses do not occur and these are readily dislodged into the general circulation. There is not one of us who would be so imprudent as to handle a femoral thrombophlebitis, except with the greatest gentleness. We wrap it up in swaddling clothes to protect it from injury. Yet we deny this tender solicitude to the uterus and its vessels.

What has been said about curettage applies equally to less drastic, yet equally to-be-deprecated, tomponades and escarotics.

There is another important type of case which is complicated by hæmorrhage. The history runs about as follows: Delivery five days ago; fever and chill on third and fourth day; uterus large and tender, cervix soft and widely patulous, continued hæmorrhage from uterine cavity; marked anæmia due both to hæmorrhage and hæmolysis. History indefinite as to retained products.

Such cases come frequently under our care. Not many months ago every such case was immediately anæsthetized, the uterus explored, its cavity flushed out and packed with iodoform gauze. The rate of mortality proved high, chills not infrequently followed the operation, and the local condition either spread to the peritoneum or became a generalized septicæmia. In most of such cases one is struck with the small result of exploring the uterus. The cavity is generally found free from detritus. The hæmorrhage in most cases is not due to the retention of products of conception but merely the expression of that toxic hæmophilia which is so difficult to control. It is probable that most of these cases will die no matter what is done; but certain it is that, judging by the immediate and great aggravation of the symptoms following the interference, our treatment most decidedly did not help matters. In such cases owing to the greatly lessened coagulability of the blood, purpuric patches and mucous membrane hæmorrhages are common. In view of the fact that we cannot distinguish between these virulent infections in which hæmorrhage is but a symptom

of the grave toxæmia and those cases associated with hæmorrhage due to retention of products, we have adopted the plan of gently drawing down the cervix and packing the uterus with plain or iodoform gauze, leaving it in twenty-four hours and repeating if necessary. It is surprising, with experience, how little stirring up of the pelvic contents such a procedure entails, and the patient's general condition shows not the slightest shock. Let me outline a case or two which have recently occurred:

CASE 8.—Multipara, delivered ten days previous to being sent to hospital. Chills and pulse 140 or over. Uterus large, boggy and tender; cervix patulous; continued flow of thin dark blood from the uterus. Patient greatly anæmic. Uterus packed with gauze. Unable to control hæmorrhage. Debate as to whether normal blood serum would increase coagulability. Decided against owing to its inertness in infected cases. Finally anæsthetic. Explored gently with finger. Uterus found empty, packed with gauze. Blood from median basilic vein very fluid and of dirty blackish watery colour. Death eight hours after operation.

CASE 9.—Eight days *post partum* came to Samaritan Hospital; fever developed on fourth day; hæmorrhage not alarming but continuous. Patient very toxic, pulse 140. Blood cultures showed streptococci. Packed uterus with gauze without anæsthesia. Removed gauze in twenty four hours; with it came clots and quite a piece of necrotic placental tissue. Slow recovery without further local treatment.

From the outline of these cases it will be seen that our methods are again strongly conservative. Hæmorrhage is the one symptom that will force us to invade the infected uterus. When such invasion is decided upon we adopt the method that will provoke the least possible local disturbance, in order to keep the infection localized to the pelvis and, if possible, to the uterine muscular walls, which after all offer a great barrier to the spread of infections. Once the disease has passed this barrier there is no limit to its possibilities.

There is another type of case that must arrest our attention, a type of case in which it has become quite the fashion to use intra-uterine medicated douches. Let me outline such a history: Four days *post partum*, fever with or without chills; copious, fetid, *café-au-lait*-coloured lochia containing a large amount of mucus.

In such cases it is exceptional not to find the intra-uterine douche used. These are the so-called saprophytic cases. I have seen, I am quite sure, not less than thirty such cases in the last

six months. The effect produced by such a lavage is supposed to be twofold, the cleansing effect of the water and the bactericidal effect of the drug. The former effect is as inefficacious as the latter. Anyone who knows the veriest elements of pathology must realize that the danger lies not in what remains in the uterine cavity but what lies deeper. The mere washing of an abscess cavity does not help the healing. It is generally conceded by surgeons that it only bathes the surface, does not reach the vital spots, liquefies the toxins and promotes absorption of these. Here also if the organism is merely on the surface, it is, therefore, saprophytic and not to be dreaded, and with proper drainage will be readily overcome. I cannot help comparing the lavage treatment of the uterus to the treatment of general peritonitis which was generally in vogue a few years ago. It is well within the recollection of every one when it was thought the duty of the surgeon to eviscerate, wash with saline all the intestines, and wipe off the plaques of lymph—the very safeguards of nature. The result was the same as in puerperal infections, increased absorption of bacteria and toxins, chills, and sometimes death. We obstetricians are learning our lesson, slowly, long after the surgeons have shown us the way. At the present day in cases of peritonitis we are content to relieve tension and let nature do the rest. So we think it should be with the infected uterus: promote drainage and let nature take care of the infection.

Moreover, the intra-uterine douche is not the innocuous thing it was supposed. I have collected from the literature no less than sixteen cases of chemical peritonitis following upon intra-uterine douches. It may be thought that in these cases there must have been uterine rupture and undue force used. Not at all. My eyes have been opened recently to the great ease with which fluid can be forced from the uterine cavity into the peritoneum. This was first brought to my notice by the frequency with which free watery blood was found in the peritoneal cavity after curettage. In not a few cases I have been astounded at the amount and have examined the uterus for evidence of puncture. This was never found. But the condition was readily explained when, later, Dr. Chipman began to inject a strong solution of iodine into the uterus in carcinoma cases in order to kill out the malignant cells and prevent their contaminating the field of operation. It was then found that though a minimum of force was used, invariably the pelvic peritoneum was deeply stained and contained fluid iodine in variable quantity.

To demonstrate the great patulousness of the tubes I will report the following case in detail:

CASE 10.—A child two days old, with bowel obstruction, was given castor oil. On night of second day I was called in consultation. Abdomen markedly distended, dark liquid blood flowing in spurts from the vagina, and a sausage-shaped mass felt per rectum at the brim of the pelvis. Operation revealed congenital atresia of the sigmoid at two spots, with a thin pouch of intestine intervening. The lower atresia was complete, the upper incomplete, and rupture of the bowel between the constrictions had taken place. The abdomen was full of blood and meconium. At autopsy four hours later the abdominal blood was seen evacuating itself *per vias genitales*.

This to me was no little surprise and has led to the following experiments: I have injected methylene blue into the uterine cavity at autopsy with douche-can and canula, imitating as closely as possible the technique of operative work, and I have found that with a pressure of only two feet of elevation, in some cases eighteen inches, and with a temporary obstruction to the outflow, such as frequently occurs with clots and fragments of tissue, I can force fluid into the peritoneal cavity through the Fallopian tubes. I repeat, only two feet of elevation of the douche was necessary. Hence the frequency of chemical peritonitis, not to speak of septic peritoneal contamination.

If we now turn our attention to the bactericidal power of these therapeutic douches we can dispatch the matter in a moment when authors have proved that a solution of 1 in 1000 bichloride in contact for ten minutes *in vitro* with streptococci has not a lethal effect upon them, and that the same strength of solution in contact for half an hour with the surface of tissues penetrates but one-tenth of a millimetre, and who would dare to use 1 in 5000, not to speak of 1 in 1000, bichloride in the uterus?

There is still another form of treatment which deserves recognition, namely, the different forms of serum, antibodies, and vaccines.

First in point of time as well as of importance comes the anti-streptococcus serum. Have the results justified its use? I am sorry to state that after a prolonged and conscientious trial of this preparation, appealing to me as it does, as being both logical and scientific, I have had to abandon its use completely. It is still commonly used in grave, almost hopeless, cases merely because we seem so utterly helpless under such circumstances. Not infrequently a fall of temperature by crisis, or a slow bettering of the patient's

condition, is attributed to the serum when probably the therapeutic effect of the dose had nothing to do with the change. Serum treatment is not without its dangers, into which I cannot enter here. Moreover, the only logical way to employ it is to find the nature of the organism causing the disease. This was done in all our cases. But even when the disease is caused by the streptococcus it is not surprising that the serum does not act, for we know that there are certainly as many varieties of streptococci as there are strains of colon bacilli; and if we examine more closely we will probably find that there are as many strains of organisms as there are individuals infected. To overcome this the polyvalent serum has been introduced, but the results have not been encouraging, and it savours too much of the blunderbuss dose to find favour.

Do vaccines find any place in the treatment of puerperal fevers? It is unfortunate that in the nature of things their use should be very limited. They have no place in the acute infections where the patient is reacting to the full extent of her powers of resistance. To give such a patient vaccines would be doing her grave injury, and may be just the quantity to overload her system and cause death. We must not forget that in using vaccines we are injecting not an antibody but the very poisons against which the patient is already battling for her life. Vaccine therapy fails us where we most need it, namely in the very acute severe infections. They may and do help us in the subacute and protracted cases of infection.

The intravenous injections of such solutions as collargol, magnesium sulphate and such like preparations have never appealed to me and my personal experience is almost nil.

There remains but one form of puerperal infection to describe—the intraperitoneal type, gonorrhœal and tuberculous. But both these infections are of the nature of peritoneal involvement secondary to tubo-ovarian disease, they hardly come within the scope of this paper.

In conclusion, and in order to crystallize what has gone before, I take the liberty of outlining a very recent case, which carries with it the treatment which we at present adopt:

CASE 11.—A multipara, suffering from acute cholecystitis with fever and severe abdominal and epigastric pains. After five days of local and general treatment the temperature became normal with slow disappearance of all the symptoms. She was eight months pregnant. On the second day of normal temperature she miscarried. Dr. P., who was attending the case, could not be

found and Dr. R. was called. No remarks about the placenta or membranes. Internal examinations without gloves were made. On the third day chill and fever, 103.3° . I was called in consultation by Dr. P. three days later. I found a subsiding cholecystitis, tenderness over the lower abdomen, a perineal tear covered with a grey streptococcic membrane, and the cervix similarly involved. There was fixation of the lower uterine segment. The os was patulous and a piece of placenta the size of a hen's egg could be felt beyond the internal os. The patient was extremely weak, very anæmic, with pulse always over 130. She looked very toxic. The lochia were not fetid.

Treatment: Drainage was promoted by setting the patient up in bed. For such cases there is nothing so comfortable as the Gatch bed. Cleansing vaginal douches were used under very low pressure. Vulvar pads were removed, and an ice-cap, well protected, was placed on the hypogastrium. If possible, open air treatment or, failing this, free ventilation was recommended. Patient was encouraged to drink water in enormous quantities, and a sustaining and nutritious liquid diet was ordered. Sponging, if temperature should rise above 103° . Ice-cap to the head if headache proved severe or if delirium should supervene. Purgation to be avoided, I cannot overemphasize the effect of encouraging the patient to drink large quantities of water. Stimulants are used if necessary, and everything is done to promote the patient's comfort and to induce sleep.

Such was the course adopted. Three days later the placental tissue came away and in three days more the temperature reached normal and convalescence was uninterrupted. Had hæmorrhage come on I would have advised packing, and, if necessary, repacking.

Such is our line of treatment. Our recoveries have been greatly increased by it. We have come to it through a long series of sad experiences. We admit that as gynæcologists and obstetricians we have learned our lesson slowly. The surgeons have taught us the way, but we were slow to follow. I do not hold out for this line of treatment that we can save all cases. Some of these infections are so virulent and the resistance so low that the flooding of the system seems virtually to paralyze the human body, and between this extreme and the other extreme of mere saprophytic invasion of the uterine cavity there are all grades. We are earnest in our search for enlightenment and we advocate a line of treatment which, though some of you may think it errs on the side of too great conservatism, at least has the merit, it must be admitted, of being

easily put into effect and carries with it the minimum of possibility for harm. For my part, other things being equal, I much prefer to treat a case that has not had surgical interference of any kind, and I feel conscientiously certain that the recoveries will be smoother and more frequent.

The question of the treatment of puerperal infection has been awakened to new activity, and is being widely discussed throughout America. The general tendency of those in authority is towards conservatism. Some are radical in their conservatism, others are merely conservative. I only ask that the treatment be based upon sound surgical principles, and I feel sure that we will not stray far from the right path. The French schools are fond of placards announcing scientific truths in their lecture rooms and wards. My placard for puerperal septic cases would be *Noli me tangere*.

THE DIAGNOSIS OF SUBTENTORIAL TUMOURS

WITH A REPORT OF FOUR CASES

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THE study of the diagnosis of subtentorial growths resolves itself into three distinct divisions, namely, in the first place, the determination of the anatomical site of the subtentorial lesion—and I refer here to the three positions, namely, cerebellar, extra-cerebellar (between the cerebellum and occipital bone), and lastly, the pontine; while it is necessary also definitely to separate such lesions from those due to disease above the tentorium. In the second place one must differentiate the various morbid conditions which occur in these regions, namely, tumour, abscess, vascular thrombosis and hemorrhage, labyrinthine disease, meningitis, sclerosis and atrophy, and, finally, uræmic manifestations. Thirdly, the nature of the new growth. Is it syphilitic, tubercular, hydatid, or one of the manifold types of neoplasm?

The disturbances of function which are characteristic of subtentorial growths may be divided, in order that we may come to a decision as to the anatomical site, into eight divisions, namely: (1) general signs of increased intracranial pressure; (2) cerebellar and cerebellar tract signs; (3) brain stem nuclei and nerve signs; (4) motor, and (5) sensory tract signs; (6) affections of the bladder and rectum; (7) reflexes, and (8) signs of increased ventricular pressure.

The first cardinal sign is headache. This is usually an early sign in cerebellar and extra-cerebellar tumours, but usually late in pontine and medullary growths. It is most characteristic if it is felt at the back of the head, but is very frequently complained of in the frontal region, and while it may occur in both, yet its maximum may be frontal rather than occipital. Again, one may mistake neuralgia over the fifth nerve for a true headache. In supra-

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tentorial growths, occipital headache is not the rule, but may occur, while we must note with the greatest care that if the basal tumour causes pressure on the fourth ventricle, it may lead to great dilatation of the lateral ventricles, which may cause a complaint of great internal pressure and occasionally a sensation burning in character.

The second cardinal sign is optic neuritis. Now in cerebellar this is frequently early and intense, and the same statement applies to extra-cerebellar growths, while in pontine it is frequently late in appearance. But it may be absent, in fact in Paton's series it was not seen in 26 per cent. of extra-cerebellar growths nor in 48 per cent. of pontine, and yet, strange to say, the actual degree of swelling of the disc was greater in the pontine than in the other two. In supratentorial growths all degrees of optic neuritis occur.

The third sign, vomiting, is usually present in cerebellar and extra-cerebellar growths, and yet it may be absent for months at a time and then recur. In pontine it is usually less severe, while in supratentorial growths it is like the other general signs, variable.

Leaving aside that form of true vertigo in which objects appear to move from side to side, or in which the patient feels that he is moving from one to the other side—a symptom which is probably due to interference with the semi-circular canals or their connexion *via* the pons to the mid-brain, and considering only the sensation of general giddiness due to increased intra-cranial pressure, one may simply state it is frequent in all subtentorial conditions.

In examining the signs due to cerebellar involvement, it is necessary to note that the cerebellum is connected by its peduncles with the spinal cord and with the pons, both of which are afferent and efferent to the cerebellum, while by its superior peduncle it is mainly efferent to the nucleus centres of the mid-brain, to the red nucleus, optic thalamus and cortex. But physiologically it is in all probability the great centre for tone, and it apparently acts in three distinct ways: it receives as a sensory centre the sensation of tone from all parts of the motor mechanism; it supplies a constant amount of tone to the motor mechanism at rest; and in correlation with cerebral and cortical action, it supplies the necessary tone for prolonging contraction, when an action is performed.

Naturally, three classes of symptoms may arise in cerebellar diseases. First, those due to loss of tonic afferent stimuli, and in this case the cerebral action may be excessive, since no knowledge of the necessary amount of tone to be exercised is obtainable; secondly, those due to loss of tonic and of efferent stimuli at rest, resulting

in a general atonia and asthenia of motor structures; and thirdly, those due to loss of tonic efferent stimuli when cortical motor action is performed, leading to tremulous movement, dependent on the absence of constant tonic stimulation which should be supplied by the cerebellum.

Considering, therefore, the disturbances due to interference with the cerebellum by tumours, one may outline them under the above mentioned headings.

(a) Disturbances due to excessive cerebral action owing to the absence of cerebellar afferent stimuli.

Asynergy.—This sign is not often present, but is characterized by the difficulty in performing movements of groups of muscles usually associated together. The cortical cells find it impossible to associate a proper degree of tone for each group of muscles, and therefore, simple movements which should be combined together are each performed separately.

Adiadicocinesia.—This is usually tested by rapid pronation and supination of the forearms, and when there is cerebellar defect one expects to find a diminution in the ability with which it is performed on one or both sides, it is a valuable sign if one-sided cerebellar disease is present. It depends on the fact that the cortex is unable to change rapidly from one simple movement to another, owing, perhaps, to a difficulty resulting from a lack of knowledge of the proper tone to be supplied for the action.

Cerebellar catalepsy.—This is tested by the patient lying on the back and elevating the legs flexed at the knees. In this case while tremor may occur before they reach this position, when once they are held there, in cerebellar disease there is more than usual ability to keep them firmly in such position.

Loss of power of measured movements.—The patient in writing or in pointing out an object advances either the pen or the finger to a degree beyond that required. This, again, is probably due to uncontrolled action of the cortical centre.

(b) The next signs are cerebellar asthenia and hypotonia, and these are of great value if one side is only or principally affected, although the muscular power is strong and equal on both sides, one recognizes marked hypotonia or definite asthenia in the arm and leg of the side in which the cerebellar lesion is situated.

(c) The third group of signs is apparently dependent on the fact that a normal action of the cerebral motor cells and a continuous tonic supply from the cerebellum are necessary in order that the movement may be continuous and not intermittent. These cardinal

signs occur not only in cerebellar disease but in disease of the tracts from the cerebellum to the nuclei in the mid-brain, to the red nucleus and probably to the thalamus. In these cases a true intention tremor may occur, and if one-sided, will be on the side of the tumour. Nystagmus is probably due to the same cause, and is characteristically shown by being rapid on the side opposite to the tumour, and slow and jerky on the side of the tumour.

(d) There are certain signs due to the cerebellum being affected, in which probably not only the afferent but also the efferent defects bear definite influence. The gait in cerebellar disease is frequently highly characteristic, and yet varies in many different cases. On the one hand there may be a marked asynergic gait, in which the patient is unable to walk from the fact that he cannot perform the separate movements necessary in this action at the same time. On the other hand there may be marked titubation, the patient staggering from side to side with a tendency to fall, in some cases to the side of the tumour—probably due to a measure of atonia on that side. Again, in standing the patient may fall to one side from static ataxia. The head may show marked trembling and may be held over to one side, usually but not always having the occiput on the same side depressed towards the side of the tumour.

Now while these are typical signs of a diseased cerebellum, yet they may occur in extra-cerebellar tumours from the growth pressing into the lobe, and also in the same manner cerebellar signs may occasionally occur in pontine tumours. In the latter case the gait is more likely to be spastic, and yet in some cerebellar cases the gait may be slow and uncertain rather than asynergic or titubate.

As a general rule it may be laid down that complete paralysis of cranial nerves issuing from the subtentorial region is diagnostic of extra-cerebellar or pontine lesions, and that partial paralysis, while due to pressure from any of the three causes, cerebellar, extra cerebellar, or pontine, may yet be due to cross pressure from the opposite side or to displacement of the cerebellum itself.

The third and fourth nerves arise above the tentorium and yet, particularly with a displaced cerebellum, may be severely affected. They may be affected on both sides or on one, and may show loss of power of movement of the eyes and ptosis. Such is an extreme case; for instance that quoted by Spiller, where with a big extra-cerebellar tumour dislocating the cerebellum forwards there was on the left side ptosis and only movement of the eye downwards, and on the right side internal rectus weakness. In this case, despite the left cerebellar growth, nearly all the signs were right cerebellar,

namely, weakness of the right face and masseter muscle, while signs of pontine involvement showed in the affection of both lower limbs with extensor responses.

The fourth nerve may be affected by a tumour growing forwards through the tentorium and cause difficulty looking downwards.

Paresis or paralysis of the external rectus muscle, which is supplied by the sixth nerve, must be carefully distinguished from slow nystagmus. It is a one-sided condition, as the internal rectus of the other side will not usually be affected. Diplopia will be complained of on the affected side. In extra-cerebellar growth this is diagnostic and valuable, in pontine it also occurs, in intra-cerebellar rarely, and then due to pressure. In supratentorial tumours it may occur late from general pressure or from growth interrupting the nerve in its course to the muscle it supplies.

The fifth nerve may be affected in either its sensory or motor course. In extra-cerebellar tumours there may be disturbance or injury of either or both divisions with numbness over the face, or pain, and with weakness of the temporal, masseter and pterygoid muscles, so that on opening the jaw it drops to the healthy side. In pontine lesions the same condition occurs, while a double fifth may occur or a fifth with crossed paralysis, that is, with lesion of either nerves or motor sensory tracts on the other side of the body. In supratentorial growths, apart from general pressure, a fifth may be implicated, especially in its sensory branches in its course from the gasserian ganglion to the nerve exits from the skull.

The seventh is usually affected in all forms of tumour to some degree. Total facial paralysis occurs most usually in pontine and extra-cerebellar growths; it may occur on both sides in pontine and vermiform process tumours. Cerebellar tumours usually cause the upper neurone type of weakness, in which the lower part of the face is mainly or only affected. And yet one must note here that the pressure may be actually greater on the side opposite to the growth with weakness to the face on that side. Supratentorial growths, if situated near the motor areas or the motor paths leading from them, produce the upper neurone type of facial paralysis. General intra-ventricular pressure leads frequently to weakness in the facial muscles on one or both sides, having no relation to the tumours itself.

The eighth nerve is frequently affected in extra-cerebellar and pontine growths. You may look for early signs of both affection of hearing and of the equilibrium. Giddiness, due to affection of the nerve leading from the semicircular canals to their nuclei

in the pontine angle below the cerebellum, may occur. Noises in the ear may also occur, such as the sound of escaping air; but deafness is a cardinal sign of pontine or extra-cerebellar tumour. In cerebellar lesions there may be disturbances of hearing, usually partial and due to pressure; while in supratentorial lesions deafness may also occur, but in this case more usually due to counter pressure, to auditory neuritis, or to word deafness.

The ninth nerve is rarely affected in any but pontine tumours. However, cases are reported of extra-cerebellar tumours growing on the ninth nerve, in which taste on half the tongue was lost, and this was the first sign of the growth. It is interesting to note that in one case smell was lost also on the same side. In cerebellar tumours there is rarely affection of any of the nerves below the eighth, but yet pressure on these may occur, and the order of their frequency is ninth, tenth, eleventh, twelfth.

The vagus is principally of diagnostic value in its affection in connexion with pontine growths. Truly in extra-cerebellar there may be a weakness of the palate on the same side; in cerebellar still more rarely; in pontine this is much more characteristic. So with the vocal cords; their affection is practically diagnostic of the pontine lesion. General pressure, however, in all conditions, cerebellar, extra-cerebellar, and pontine, leads to vagus trouble with difficulty in swallowing, and in some cases death may occur from affection of the respiratory centre.

The spinal accessory may be affected in pontine growths, causing wasting of the sterno mastoid muscle on the diseased side, while the usual position of the head in cerebellar tumours may be regarded in some cases as due to irritation of this nerve, or more frequently as a sign of true cerebellar nature.

The twelfth nerve is frequently affected in pontine tumours, while in extra-cerebellar tumours it is most usually affected through direct pressure on the pyramidal tracts above the crossing; wasting of the tongue is strongly diagnostic of pontine growth. As to the affections of speech, one can realize that this function may be altered through several different conditions, for instance, through cerebellar ataxia, or through affection of the seventh, tenth, or twelfth nerves. A truly ataxic speech is most characteristic of intra-cerebellar disease and is seen most commonly perhaps in cerebellar sclerosis, while defects due to interference with the nerves are more common in pontine disease.

The condition of the motor power of the body, apart from that due to cerebellar disturbances in function, does not show any change

in a pure cerebellar case. In extra-cerebellar tumours there may be definite weakness of the opposite side, while in pontine lesions there may be definite bilateral or unilateral weakness, which frequently is of a definite spastic type.

Changes in sensation of touch, pain, and temperature on the side opposite to a tumour, when they are present, are very strongly diagnostic of a lesion in the pons, especially if it is disassociated. If it should occur in extra-cerebellar tumours its presence must point to extensions of the growth into the pons.

Bladder and rectum disturbances are characteristic of pontine disease, or of high intra-ventricular pressure with dilatation of the ventricles.

A further group of symptoms are those due to increased intra-ventricular pressure, and these are of two types, firstly local, where the increased pressure in the lateral ventricles gives rise to local signs such as upper neurone hemiplegia, hemianopia, and so on. Under general signs I include the various forms of convulsion. Firstly, attacks characterized by a sensation of marked weakness, described by the patients as a sensation of "giving way." Secondly, the cerebellar fits described by Hughlings Jackson, characterized by extension of the legs and the crossed arm type so well figured by him.

The value of the reflexes in the diagnosis of these three lesions is not great. In cerebellar tumours the reflexes are frequently diminished; they may, however, be increased, particularly if the pressure exhibited by the tumour is becoming great. In extra-cerebellar tumours a characteristic symptom would be increase of the reflexes on the side opposite to the tumour from pressure, with an extensor response on that side. In pontine tumours the presence of double extensor responses, with markedly increased reflexes and ankle clonus, is in favour of such a lesion.

The diagnosis of abscess from growth consists in the history of local septic processes, of more rapid onset, of temperature variations, with perhaps high white cell count. From local thrombosis and hæmorrhage, the diagnosis must rest on the onset and on associated vascular conditions, while the localized signs will be similar to those of tumour, yet the general signs of tumour will be absent. For meningitis, we have the onset, rapid course, more marked basal irritation, spinal puncture and blood count. From uræmia the diagnosis is made by the renal condition, the examination of the optic discs, signs of basal irritation without local paralysis, absence of cerebellar signs, and relief by lumbar puncture; and from laby-

rinthine disease by the aural examination, absence of optic neuritis, characteristic nystagmus, and so on.

The following four cases of subtentorial tumour have come under my care in the last three months, and, strange to say, have followed one another consecutively.

CASE 1. Tumour of the pons. F. B., age thirty-two. Four months before complained of double vision, followed by paralysis of the right side of the face, and two months ago of weakness of the right arm. In considering his general symptoms it is interesting to note that even at this late stage he complains of no headache, but at one time suffered from giddiness which entirely left him when vomiting started; this latter symptom is now of less note. Examination of the discs showed marked optic neuritis. In regard to his cerebellar symptoms there is neither asynergia, asthenia nor tremor made out. Examination in the third place of the cranial nerve signs shows paralysis of the motor fifth on the right side, and complete paralysis of the whole of the facial movements on the right side, due to affection of the seventh. No deafness is present, but there is weakness of the right palate. On examination of the motor power of the body there is spasticity and weakness of the left arm and leg, and also of the left sterno-mastoid muscle. The characteristic signs of pontine disease are added to by the fact that there is a feeling of numbness in the left side of the body, a heat sensation is felt as painful, while cold sensation is normally interpreted. There is no disturbance of the bladder. The reflexes on the right are normal, and the left are increased with left ankle clonus and plantar extensor.

CASE 2. F. T., age fourteen. Complains of headache for the last three years, but severe for the last three months; vomiting, staggering gait, discharge in the left ear. Three years ago, following scarlet fever, this boy developed ear discharge, but it stopped three months ago when his headache became severe. As to the general symptoms, the headache is felt in the frontal and occipital regions, vomiting is still present, at other times retching is more marked; optic neuritis is present in both eyes, the left greater than the right. The cerebellar signs are characteristic; there is hypotonus on the left side, but adiadocinesia is most marked on the right side, and on walking he falls to the right. There is no nystagmus and no tremor. The cranial nerve signs are absent. There is neither paralysis nor paresis of any of the cranial nerves. The reflexes of the knee are depressed, the plantar is extensor on the right. Lumbar puncture shows a cell count of 3, the blood count 7,000 whites. On account

of the fact that the boy had ear discharge in the left ear and that the cerebellar hypotonus was on the left side, and in spite of the fact that the other cerebellar signs pointed to the right side, it was decided to operate on the left cerebellar region by the mastoid route. No abscess was found. The patient developed respiratory failure while on the operating table. He was kept alive by artificial respiration for one day. The post-mortem examination showed a gliomatous cyst in the left cerebellum.

CASE 3. W. C., age twenty-three. Five years ago struck by a brick over the head. Two months ago had what he calls a sun-stroke; sensation of "giving way." He has developed the general signs of headache, which was felt in the frontal region radiating into the back of the head; vomiting occurred from time to time, and there has been considerable giddiness. Examination of the cerebellar symptoms shows very definite difficulty in pronation and in supination of the left arm; some staggering in walking, and he falls to the left side. Marked hypotonia of the whole of the left side. On examination of the cranial nerves one finds quick nystagmus to the right side, slow to the left; marked weakness in the masticators of the left side; weakness of the external rectus muscle of the left side; weakness of the whole of the left face. No affection is found of any nerve below this level; the reflexes are equal, and unaltered on both sides. Diagnosis is made of a left extra-cerebellar tumour pressing into the cerebellum. On the morning of the operation patient died suddenly from respiratory failure, a few hours before the time fixed to operate. Post-mortem examination revealed an extra-cerebellar tumour growing from the meninges and pressing into the left cerebellar lobe.

CASE 4. L. B., age twenty-nine. Six months ago, following on childbirth, felt weak and tired. Noticed dizziness as soon as she began to get out of bed following her confinement. Complained of difficulty in vision and vomiting before her breakfast for some two or three months. The general signs in the case are headache, which was felt on the right side behind but mainly over the temples; vomiting, which occurred for the first two months, but for the last two months had stopped; optic neuritis of severe degree, the right side greater than the left; dizziness of slight degree. Cerebellar signs. There appeared to be slight impediment of the power of pronation and supination of the left arm, but hardly sufficient to be diagnostic. She staggered on walking but to a very slight degree, the tendency to fall was to the right side. Examination showed slight weakness of the left external rectus, which had only

recently occurred and was thought to be probably, therefore, a late symptom, and of no value in diagnosis. The seventh nerve was normal. The eighth nerve showed noises and some degree of deafness in the right ear. The reflexes on both sides were equal and increased, plantar reflexes flexor. It was decided that the tumour lay in the right cerebellar region on account of the deafness and weakness over the right face, and because the patient staggered to the right; while the left weakness of the external rectus was thought to be due to late general pressure. Strange to say, the same result occurred as in the last case referred to. On the morning before the operation the patient was taken with respiratory paralysis and died, despite the assistance of artificial respiration. Post-mortem examination showed a tumour to be present in the left cerebellar region.

NICKEL-CHROMIUM WIRE FOR THE BACTERIOLOGICAL LABORATORY

BY H. M. LANCASTER, B.A.Sc.

Chemist, Provincial Board of Health Laboratories, Toronto

BACTERIOLOGISTS requiring large quantities of platinum wire for routine work in the laboratory, or for the use of student classes, will find nickel-chromium wire of some assistance. This alloy heats readily, and cools quickly, but is not rapidly disintegrated by repeated heating and cooling. A very useful instrument may be made from a three-inch length of No. 22 Brown and Sharpe gauge wire inserted in an eight-inch handle of three-sixteenth-inch aluminium rod. A firm junction between handle and wire may be secured by drilling a small hole slightly larger in diameter than the wire one-half inch deep into the end of the rod, inserting the wire, and, finally, hammering or pinching in a vice until the two are firmly joined. Wire of any other gauge may be used if desired.

Nickel-chromium wire in all gauges is supplied by any of the larger firms dealing in such alloys. It may be obtained from manufacturers of electrical supplies, as it is used under the trade name "Nichrome" as resistance wire in the heating elements of many modern heating devices. The cost of nickel-chromium is very small compared with that of platinum. At present prices, one foot of platinum wire, No. 22 gauge, at forty-five dollars per ounce, costs about three dollars; ten feet of No. 22 gauge nichrome, at four dollars and eighty-five cents per pound, cost about eight and one-half cents.

*Read before Laboratory Section, Canadian Medical Association, London, Ontario, August, 1913.

Case Reports

NERVE ANASTOMOSIS

G. C., age twenty-seven, came home five years ago from Flint with contractures, paralyses, etc., due to anterior poliomyelitis. He had also some accompanying anæsthesia of the skin of the foot and leg on the right, its distribution following closely the area supplied by the external popliteal nerve. Four years ago we operated, doing a tendon-switching operation and relieving the contractures so that he was enabled to walk. The right foot, however, was the cause of a lot of trouble, as it would be injured or frozen without the patient's knowledge. In March of this year at the Brantford General Hospital I operated again, cutting down through the popliteal space and dissecting out this space till the sciatic nerve and its divisions into external and internal popliteal were laid bare throughout. The external branch was less than half its usual size, but the internal was a large healthy nerve. Both branches were freshened and sutured with silk, side to side for one and a half to two inches. The united nerves were covered in by suturing over them the surrounding muscles and fat.

At present, two and a half months after operation, the feeling has returned throughout the entire anæsthetic area except one spot the size of a twenty-five cent piece immediately back of the web of the second toe. The trophic sores have healed and motion and use of the foot and leg is much better. A surprising feature of the case was that the return of the sensory function began four days after the operation, and was noted by the patient and by Dr. McCall, the house surgeon, at that time.

Brantford.

EVERETT S. HICKS

CHLOROMA

BY WILLIAM G. HEPBURN, M.D., C.M.

THIS communication is a study of a case of chloroma treated in Dr. G. G. Campbell's ward in the Montreal General Hospital.

Chloroma is the name applied to certain rare tumours, which are characterized by a green or greenish colour. The nature of the green colour has not been explained. These tumours are found invading the bone-marrow, the periosteum of the flat and long bones, the lungs, kidneys, liver, pancreas and other organs and tissues of the body. The symptoms of chloroma are those of acute leukæmia, namely, severe anæmia, weakness, and a tendency to hæmorrhages. There have been about one hundred cases reported, the majority in children, a few in adults, and a small number in infants. The course of the disease is very acute, usually from a few weeks to several months, one case having been reported as lasting one and a half years. Exophthalmos may be present, due to the presence of green tumours in the orbit. The blood picture presents a very high white cell count, even exceeding a million per cubic millimetre. Chloroma has formerly been considered to be due to tumours arising from lymphoid tissue, especially the spleen and lymph nodes, but recent work on this subject, as for example the article of Dr. A. M. Burgess, *Journal of Medical Research*, November, 1912, 133-155, shows that chloroma is a type of acute myelogenous leukæmia. The tumours are due to the myeloid cells invading normal tissues outside the blood stream and forming palpable masses.

The following case is of interest in illustrating this relation, as the ante-mortem diagnosis was acute lymphatic leukæmia:

E. R., male, fifty years old, a worker in a lime-kiln, entered the Montreal General Hospital April 24th, 1913, with a history of having been in poor health for some time previous to the onset of his acute illness, so that at intervals he had to discontinue his work. Four weeks prior to his admission he developed a dull aching pain in the left lower abdominal quadrant, which disappeared in eight days. His acute attack consisted of cough with sputum, weakness, loss of weight, sore mouth and throat, and dizziness. His habits

From the Pathological Laboratory of the Montreal General Hospital.

were regular. He had had twenty children born, of whom fifteen died in infancy.

He was a large, well developed man. His skin was of a greyish icteroid hue with purpuric spots on the arms and legs. The axillary, anterior cervical and inguinal glands were moderately enlarged and palpable. The tongue was soft and flabby, showing indentation of the teeth. The tonsils were hypertrophied with œdema of the uvula, the pharynx pale, and the right side of the fauces was injected with a hæmorrhagic area. The alveolar borders were spongy. The spleen was palpable three fingers' breadth below the costal border, measuring 20 x 12 cm. The day following admission, a blood count showed red cells, 2,400,000; white cells, 54,000; hæmoglobin, 38 per cent.; and a differential count of 503 white cells gave the following percentages: polymorphonuclears, 21·0; small lymphocytes, 43·4; large lymphocytes, 32·0; eosinophiles, 0·2; large mononuclears, 1·2; transitional, 1·4; myelocytes, 0·8; and normoblasts 0·6. The blood count show a marked increase of mononuclear cells, or a lymphocytic predominance.

On May 2nd the patient had an attack simulating hæmorrhage with symptoms of air hunger, restlessness, extreme pallor, perspiration, small, thready pulse, and with loss of vision. Death followed in an hour and fifteen minutes.

The autopsy findings showed the external lymphatics enlarged, and petechial hæmorrhages on the upper arms, right elbow and the front of the thorax, measuring 1 to 2 mm. in diameter. In the abdominal cavity the visceral and parietal surfaces of the peritoneum showed several groups of petechial hæmorrhages. The mesenteric lymph nodes were enlarged, softened, and greenish-red on section. There were areas of hæmorrhages from 1 to 3 cm. in diameter on both pleuræ. The lungs were crepitant and bluish, showing post-mortem congestion, with a greenish hue. There were greenish-yellow masses, soft and fibrinous, placed at the junction of the cartilages and sternum, measuring 1 to 2 cm. in diameter, apparently containing fat, and lying beneath the aponeurosis of the internal intercostal muscles. The spleen weighed 1,115 gms. and was markedly and uniformly enlarged. The capsule was smooth. On section the pulp was quite friable and of a pale reddish colour. The intestines were distended, and a small green nodule 5 mm. in diameter lay beneath the peritoneum on the greater curvature of the stomach. The pancreas was enlarged, firm and on section was of a pale green colour. The green colour faded rapidly on exposure to air. The

liver on section presented greenish areas between the lobules. The kidneys were both enlarged, the right weighing 490, the left 515 gms. The capsule stripped easily leaving a glistening lobulated surface. The cut surface was mottled with reddish and greenish-gray areas. The living membrane of the kidney pelvis was hæmorrhagic.

Summary of autopsy findings. Pale green tissue in the lungs, junction of sternum and costal cartilages, pancreas, lymph nodes, liver, kidneys, a whitish-green nodule on the lower border of the stomach and hæmorrhages into the skin and the kidney pelvis.

It has been shown that the polymorphonuclear leucocytes and their mother cells, the myelocytes of the bone marrow, possess an oxidizing ferment. This ferment can be shown by the indophenol reaction. The formation of indophenol (a dye, naphthol blue) occurs when dimethylparaphenylenediamine and alpha naphthol are brought together in the presence of an oxidizing ferment, which exists in myelocytes but not in lymphocytes.

Microscopical examination of the tumour tissue revealed in the splenic pulp large numbers of plasma cells, and numerous cells of the character of those described below in the infiltration of the kidney, and also fairly numerous large endothelial leucocytes laden with hæmosiderin, the lymphoid nodules being small and apparently encroached upon. The mucosa of the intestine showed some infiltration with the same type of cell seen in the blood stream.

The liver showed focal areas of apparent disintegration of the liver cells and infiltration about the portal spaces with cells described below. The sinusoids contained a fair number of cells seen in the blood stream generally.

The pancreas showed a dense infiltration throughout its substance and throughout the peripancreatic tissue by the same type of invading cells. The pancreatic epithelial cells were atrophied and the tubules separated from one another.

The kidney presented some diffuse infiltration between the tubules. This infiltration appears to be general throughout the kidney instead of being grouped in nodules as in many of the cases already described.

The invading tumour tissue consisted principally of mononuclear cells which vary from the size of a small lymphocyte to more than twice that of a polynuclear leucocyte. Their nuclei were round or irregular in shape. Some of the nuclei were vesicular and contained large chromatic masses. Others were smaller and more dense. The cytoplasm varied in amount. In some cells

the cytoplasm was filled with neutrophilic, in others with eosinophilic, and in many others with small, slightly basophilic granules. A fair proportion of the cells on the other hand were non-granular. Mitotic figures were fairly numerous both in the granular and non-granular cells. The prostate had some areas of lymphoid plasma cells infiltrating, and the cells described above in the tumour tissue.

The bone marrow was infiltrated throughout with the same type of cell, and only an occasional megalokaryocyte and erythrocyte were seen. The blood stream showed numerous cells similar to those seen in the tumour tissue.

Summary. This case is of interest for the following reasons:

1. It is a striking example of the rare condition ordinarily called chloroma.

2. It seems to demonstrate that chloroma and acute myelogenous leukæmia are the same process, viz., a malignant tumour which in the one case has invaded normal tissues outside the blood-stream, forming greenish masses, and in the other has confined itself principally to the blood and bone marrow.

3. It also illustrates the fact that a blood picture which by the ordinary methods is supposed to be lymphatic, may in reality be myelogenous. In this case the co-called "lymphocytes" are demonstrated in the routine sections and by the oxidase reaction to be undifferentiated cells of the myelocytic series.

Editorial

THE PRESIDENT'S ADDRESS

DR. MACLAREN found time amidst the many distractions of those details which fall to the lot of a president to prepare an address for the annual meeting, which was wide in its range and wise in selection. He seized upon the occasion to refer to the earliest medical visitors and give an historical setting to the meeting. The Association met in St. John in 1873, and again in 1894. On the earlier occasion Sir James Grant was president, and there were fifty-five members present, at the second meeting there were one hundred and nineteen, and Dr. Maclaren refers with feeling to the presence of such men as Graham, Wright, Hingston, Buller, Bell, Bayard, Parker, Farrell, Muir, and MacLeod. In those far-off days the profession was concerned about such questions as a Dominion Medical Act, interprovincial registration, and a uniform standard of medical education. These questions have been solved, but others of equal importance have taken their place, and members need not be discouraged if the solution is delayed. A department of public health, for example, will be established in due season.

Of immediate importance was that part of the address which dealt with the organization of the Association, and the President gave expression to the feeling in the mind of every member when he urged that the Constitution should be altered to meet needs as they arise. On frequent occasions it has been pointed out in these pages that the present arrangements bear heavily upon Ontario, and that provision against holding a provincial meeting when the Dominion meeting is held within the borders of the province might well be abrogated. It may well be, too, that the financial relations require revision.

If Dr. Maclaren did not offer any specific solution of the problem, he did indicate the temper in which it should be approached.

To most people, even to members of the profession, it will be a revelation how much the physicians of Canada are doing towards national defence at a time when so much is being talked in other quarters and so little done. Previous to 1899 there was no medical service in connexion with the militia, except a surgeon attached to each regiment. Now there is an Army Medical Corps of seven hundred officers and eighteen hundred men and non-commissioned officers, which merited the outspoken commendation of the Inspector-General. Dr. Maclaren has done much towards the organization of this service, and his plea for its enlargement in the interests of the members themselves as well as for the benefit of the country at large is bound to be productive of good.

THE ADDRESS IN MEDICINE

THERE are two methods of constructing an address to be delivered before a medical association. The one is to give a history of medicine, or of some part of it, from the time of Hippocrates until the day of the meeting. The other and less ambitious is to record with some detail the progress of the science for the current year. In the address which Dr. McCrae is to give before the Canadian Medical Association in St. John at the annual meeting on July 7th, neither of these time-honoured methods is followed. Nor does he bring to the notice of the members any new or strange disease. He does not even mention his own researches, and they have been numerous and the results important. He deals with simple things, so simple that they can be conveyed in the form of a fable.

Every art is eventually destroyed by the machinery it creates for itself, and medicine is in a like danger. The practitioner by too persistent reliance upon his instruments of

precision falls into the situation of one who has eyes and sees not, and having ears hears not. He becomes so ignorant of the principles of diagnosis that he will perform a laparotomy to elucidate a simple abdominal condition, or have an *x*-ray plate made to disclose what a trained eye would discover for itself. Indeed, Dr. McCrae mentions the case of a patient in his own wards, who had three abdominal sections made in the vain effort to discover the cause of his abdominal pain, which a physical examination would have shown was due to a spondylitis.

The burden of the address is education—education of the senses and of the mind, by which the habit of patient observation is learned and correct inference drawn from the things seen. It is a plea for simplicity, for a return to those principles which were first enunciated at Knidos and at Kos by the father of medicine himself. This plea for a return to Greek simplicity is all the more important coming as it does from one who has himself mastered all the learning of the Americans, and made himself familiar with their technique. There is in it much encouragement for the physician who practises his profession far from the centres of population and deprived from the paraphernalia of a modern hospital. It is for these the meetings of the Association are especially designed, and on that account Dr. McCrae's words are fitly spoken.

THE PENITENTIARY

A COMMISSION was appointed by Order in Council on August 25th, 1913, to investigate the state and management of the Kingston Penitentiary and the report of this Commission has now been issued. In considering conditions as they exist, the wording of an Act passed by the Parliament of Upper Canada eighty years ago is of interest: it reads, "Whereas, if many offenders convicted of crimes were ordered to solitary imprisonment, accompanied by well-regulated

labour and religious instruction, it might be a means, under Providence, not only of deterring others from the commission of like crimes but also of reforming the individual and inuring them to habits of industry, etc. etc." The findings of the Commission show a staunch adherence to the principles here set forth and solitary confinement has been an important feature of prison discipline. The lack of ventilation and sanitation has made the dull monotony all the more irksome and has tended towards sullen moroseness and a feeling of hopelessness that offered little inducement towards better conduct. The conditions in the workshops were found to be fairly satisfactory, with exception of the stone-breaking shop. Here affairs were nothing short of an outrage—the dust-charged atmosphere and the prisoners ranged in rows facing each other, "crouching over their unhealthy, unprofitable, degrading tasks," in a sullen silence broken only by the monotonous rap-rap of the hammers. The system of "cellular feeding" is strongly condemned by the Commissioners, because of its wastefulness and because of its bad effects upon the prisoners.

The treatment of the insane calls for particular comment, in the hope that the methods which now are employed will soon give place to others more scientific. The building in which the insane are placed is entirely unsuitable, "it is defective in structural arrangement, lacking in nursing and medical facilities, and devoid of means of providing occupation. The physical condition of the patients shows the effect of improper diet, insufficient exercise and fresh air. . . . There is no provision for the proper classification of prisoners." Moreover, the evidence given at the enquiry shows that the convicts have not received proper attention; they have received scant medical attention and the punishments meted out to them have sometimes been unjustifiable. The Commissioners recommend that a competent alienist be employed to advise the government in technical matters, and that suitable and permanent arrangements be made for the treatment of the

criminal insane. In Western Canada, the provincial governments take charge of such convicts: this might be arranged in the East also. Or an institution might be built exclusively for the detention of such persons.

The conditions described in the report have been in existence for many years and those who should have attempted to ameliorate them have justified themselves by the assumption that what was, will be. The enquiry has now been made and the result will be awaited with interest. It is encouraging to know that the Toronto jail is to be abolished next year and that it will be replaced by corrective institutions of varied character to suit the case under consideration.

MAKING MONTREAL DRINK SEWAGE

MONTREAL has recently been compelled to drink chlorinated sewage for three days, and it is stated that the city will before long have to submit to ten days more of the same thing. The water from the Lachine Canal was turned into the water mains, and into it a large amount of hypochlorite was put. It looked dirty; it left a scum on the side of a bathtub; it stank of chlorine; and along with it one newspaper published statements from the authorities that this was a satisfactory water supply, and that it was a better water supply than Pittsburgh or Philadelphia has. Neither statement is true.

The Lachine Canal is liable to have in its comparatively small, slow-flowing bulk of water, the drainage of several miles of the shore of Lake St. Louis. A large fleet of steamers, barges, and tugs sails through it every day; what about the closets on these ships? What about the slops? What about the casual deckhand who spits overboard? The authorities of the city stated that they placed men on these boats whose duty it was to see that the closets were closed, and that no filth was put into the canal while the ship was going through. Frankly, we do not believe that the average

employee of the city could enforce this; what can he know of under-water closet flushings? How can he know by instinct how many sources of filth there are on the ship? And how about the barges and tugs? Were there enough employees to put one on each tug and barge for each trip? And what about the dozens of barges tied up in the canal? Further, drains open into the canal; perhaps sewers also. Last week a dead body was found in it of a man missing for a long time.

The whole idea of a city supplied from such a sewer with its drinking water is repulsive. It makes one indignant to think that the so-called engineers who devised its water supply were so blind or ignorant that a city nearly three centuries old, that ranks among the large cities of this continent, even of the world, has, at this late date, a water supply which a mining camp of six months standing would be ashamed to own. Canada has pure water everywhere available—and Canadians have been so improvident and stupid that they are drinking chlorinated sewage in 1914!

Let intending immigrants be told of this! It is their right to know what they would come to in Montreal.

We do not want to be told by experts that this is the only source available to us. We are tired of analyses and statements in the press that there is no danger. We are sick of hearing that the engineers and other city employees are satisfied with the results of their tests—we are not! If anyone argues that our statements are exaggerated or uncalled-for, we would say to him, "Go and look at the canal." Montreal should not spend a dollar on pavements, on expropriations, or on raising civic employees' salaries until money is provided to give us a proper emergency water supply from the river, at least, even if it costs a million dollars.

SITTING UPON THE WALL

SEWAGE from the Lachine Canal is to be distributed again as drinking water to the citizens of Montreal. The physicians, individually and in their corporate capacity, have

protested, but the warning has fallen on deaf ears. Witness the following resolutions:

"Resolved, That the Montreal Medico-Chirurgical Society makes public protest against the outrage of the people being compelled to use water from the Lachine Canal.

"That the Society hears with distrust numerous inspired statements which say that the Lachine Canal furnishes an 'adequate,' a 'healthy' or a 'safe' water supply.

"That the Society considers that in compelling the use of Lachine Canal water for 'test' purposes, the Mayor and the Board of Control are abusing the power which the people have temporarily given them.

"That the Society deplores that in this matter essential to the health of the community, the Mayor and Board of Control should dare to act save in concert with the City Medical Health Officer; and that they should have issued only a perfunctory warning to the people lately that Lachine Canal water was about to be supplied to them.

"That a copy of this resolution be sent to the Board of Control, which by a majority vote, ordered the use of this water supply."

This was two months ago. At the same time a deputation was appointed by the Medico-Chirurgical Society to wait upon His Worship and the Board he controls. An appointment was asked for, and the receipt of the letter was acknowledged. But the society is not a labour union, nor does the deputation consist of labourers looking for jobs at one and a half times the union rate of pay. Consequently the deputation is still waiting. Good government is not to be looked for in a community that prefers to be governed badly. A communication embodying these resolutions was sent to the newspapers of the city. One of them is known to have published it, none offered any comment. And the people of the metropolis of Canada how is it with them? Is it long-suffering or indifference, or worse? Typhoid, forsooth, is only the modern Mumbo-Jumbo conjured up in various forms by the medicine man in all ages, while compared with dilute, highly chlorinated sewage your filtered water would be insipid!

The age of miracles is past. Who, then, shall deliver *us*

out of the hands of the Assyrian? In the days of Hezekiah, King of Judah, Sennacherib sent unto him his messenger. The Mayor and Board of Control bring again to the people of Montreal that message which Rab-shakeh—the name, being interpreted, aptly signifies Chief Cup-bearer—delivered to Eliakim, Shebnah, and Joah, and to the men of Jerusalem who sat upon the wall. The message contained this threat, which, for an unbiblical generation, must be veiled in the decent obscurity of a dead language: *Ut comedant stercora sua et bibant urinam suam.*

THE recognition which Dr. T. G. Roddick has received at the hands of his sovereign does appear as a mark of favour well placed. It merely means that Dr. Roddick's qualities, which have always been appreciated by his friends, are now disclosed to a larger world. No honour was ever better deserved, and none will be worn more worthily. By his services to the profession and to humanity at large Dr. Roddick attained to a position so outstanding that his recognition became inevitable. It is in that the real honour lies.

AT the recent meeting of the Royal Society of Canada, a committee was appointed to enquire into the frequent cases of gas poisoning by illuminating gas. The members of the committee are Sir Thomas Roddick, Dr. R. F. Ruttan, and Dr. Girdwood, of Montreal, and Dr. F. F. Mackenzie, of Toronto. The matter will be brought before parliament by the Royal Society in order that steps may be taken to prevent the adulteration of gas by carbon monoxide. The committee is desirous of obtaining reports of cases that have occurred within the past five years, information concerning the number of cases, whether male or female, adults or children, and the result of the illness—recovery or death. Such information would be appreciated; it should be sent to Dr. G. Prout Girdwood, 615 University Street, Montreal.

ALL who are in any way interested in medical bibliography will be gratified to learn that the danger which recently threatened the independence and efficiency of the Surgeon-General's library in Washington has not materialized. The amendment to the United States Army Appropriation Bill providing for the absorption of the library into the Library of Congress was ultimately dropped in Committee.

THE Surgeon-General of the United States Army has issued an open letter to owners, agents and masters of lake and river vessels, pointing out that there were admitted to the United States marine hospitals alone, during the last fiscal year, three hundred and ninety-two cases of typhoid among American seamen. The letter comments on the remarkable results obtained through compulsory anti-typhoid vaccination in the army, typhoid fever having been practically stamped out by this simple and harmless inoculation. It is announced that the Public Hospital Service is prepared to administer the prophylactic to all sailors who may apply at its relief stations on the Great Lakes and elsewhere.

DR. H. S. BIRKETT has been appointed dean of the medical faculty of McGill University, in succession to Dr. Shepherd, who is retiring from his professional engagements. Dr. Birkett graduated from the same university with the highest honours in 1888, and joined the staff in 1889. He entered the service of the Montreal General Hospital in 1891 as laryngologist, where he remained till 1899, when he became laryngologist and otologist to the Royal Victoria Hospital. In 1895 he was appointed professor of the same subjects in the university. Dr. Birkett has obtained all the honours which could fall to a surgeon practising his specialty, and for many years was identified with the medical service of the militia. He is yet in the prime of life, an excellent organizer, a strong upholder of the best traditions in medicine, and of

high esteem in the professional ranks of the two continents. His appointment meets with general approval and he will have the enthusiastic support of his colleagues and students.

REFERENCE has already been made in these columns to the proposed appointment of a full-time professor of medicine at Johns Hopkins University. The professorship has been accepted by Dr. Theodore Caldwell Janeway. Dr. Janeway is the son of Dr. Edward Gamaliel Janeway, of New York, who was a distinguished physician and teacher of medicine. Dr. T. C. Janeway graduated from the College of Physicians and Surgeons of Columbia in 1895. In 1898 he was appointed instructor, and later lecturer on medical diagnosis in the New York University; in 1907 he was elected associate in medicine; and in 1909 became professor of the practice of medicine at the Columbia College of Physicians and Surgeons. In 1911 he was appointed a member of the Rockefeller Institute for Medical Research, and he has acted as secretary and treasurer of the Russell Sage Institute of Pathology since 1907. He is also a member of the editorial board of the *Archives of Internal Medicine*. For the past ten years Dr. Janeway has devoted himself in great measure to research and clinical medicine and his book on the *Clinical Study of Blood Pressure*, is well known. Under the new arrangement Dr. W. S. Halsted will continue to occupy the chair of surgery and Dr. John Howland that of pediatrics. It is announced that Professor L. F. Barker will retain his connexion with the university and medical school in an important capacity. The practical result of this radical departure from older methods will be awaited with interest.

THE arrangements have now been completed for the publishing of the *Medical Journal of Australia*. The new journal will be edited by Dr. H. W. Armit, of London; it will be published in Sydney, and the first number is to appear on the fourth of this month.

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At the invitation of Sir Rickman Godlee, some fifty surgeons of the United Kingdom met together at the Royal College of Surgeons of England on May 26th. The result of the meeting was the formation of an Association of British Surgeons. It will be remembered that a few years ago the Association of British Physicians was formed through the efforts of Sir William Osler. It is proposed that the number of members of the new organization shall be limited and that for the most part they shall consist of surgeons on the staffs of hospitals connected with some medical school. Each year a meeting will be held, which will last for two or three days. A different place of meeting will be chosen each year.

A PETITION has been sent to the Chancellor of the Exchequer by Sir Ronald Ross, of the London School of Tropical Medicine, requesting that some reward should be made by the nation to investigators who have made valuable discoveries in the scientific world. Sir Ronald considers that when such discoveries bring advantages to a government, that government should make some return to the individual who made the discovery. Endowments for research work do not quite meet the case, because research work which is paid for frequently becomes somewhat automatic. Were it customary to reward successful investigation by private individuals, a great stimulus would be given to research of all kinds, and it is hoped the Chancellor will be able to give the matter favourable consideration.

THE Imperial Health Conference, which was organized by the Victoria League, was opened at the Imperial Institute, London, May 18th, by Mr. Lewis Harcourt, secretary of state for the Colonies. The exhibition, which was arranged in connexion with the conference, was opened by the Marquis of Salisbury. An interesting address was given by Mr. Herbert Samuel on Housing and Town Planning. Mr.

Samuel reminded those present that during the past twenty years the death rate in England had been reduced by one-third. He thought town planning should be obligatory and referred to the proposal that the government should ask parliament for an annual grant of £4,000,000 to be expended by local authorities in public health work. Other well-known authorities took part in the discussion. The care of child life came up for consideration on May 20th, and on the 21st, the question of child wage earners was discussed. Lord Robert Cecil, who presided, considered the coöperation of the parent of more importance than legislation in this question. The old social troubles are appearing fast in Canadian cities. The close connexion between temperance, morals, and housing conditions is at last being recognized, as is shown in the change of the name of the "Board of Temperance and Moral Reform" to the "Social Service Council." The first Dominion Social Service Congress was held in Ottawa last March and the occasion was one of great public interest—apparent by the varied crowds who attended the meetings. The programme was an extensive one, perhaps embracing too much; but it was the first congress of its kind to be held in Canada and should bear fruit next year when the delegates meet in Winnipeg.

A STRIKING reduction has taken place during the past few years in the mortality from all causes in England and Wales. In 1912, the death rate was 13·3 per thousand, which is 27 per cent. less than the mean yearly rate during the period 1891-1900. In the case of infectious diseases, the decline is equally marked. Comparing the figures for 1891-1900 with those for 1912, measles has declined 16 per cent., scarlet fever 66 per cent., whooping cough 40 per cent., diphtheria and croup 57 per cent., and enteric fever 75 per cent. As for tuberculosis in its many forms, the mortality in 1912 was 32 per cent. less than during the period from 1891 to 1900; that from phthisis was 25 per cent. less. And yet, even now, over thirty-five thousand deaths are caused by phthisis each year in England and Wales alone.

Book Reviews

ATLAS UND LEHRBUCH WICHTIGER TIERISCHER PARASITEN UND IHRER UBERTRAGER MIT BESONDERER BERUICKSICHTIGUNG DER TROPENPATHOLOGIE. By R. O. NEUMANN and MARTIN MAYER. Munich: J. F. Lehmann, 1914.

A medium-sized volume of 566 pages, with forty-five lithographed prints and two hundred and thirty-seven text figures.

This volume continues the high standard of excellence in illustration which was set by the preceding volumes of Lehmann's medical atlases, of which the present work is one. It would be hard to say too much in praise of the arrangement of the book or of the manner in which its text is printed and its illustrations reproduced. It will inevitably become one of the works most consulted by physicians who practise in the tropics, or who are brought into contact with parasitic diseases.

EXTRACTION OF TEETH. By F. COLEMAN, L.R.C.P., M.R.C.S., L.D.S. Second edition. Illustrated. Price 3s. 6d. net. London: H. K. Lewis, 1914.

This is the second edition of a book which was published eight years ago, and it is not materially altered in text or illustration, although a certain amount of revision was found necessary. The main value of the book is that it elevates the practice of extracting a tooth to the dignity of a surgical operation, and at times a very serious one. The author quite properly makes much of the skill that is required on the part of the operator, and the development of his tactile and muscular sense. For the working dentist the book is invaluable, and for the general surgeon very useful.

PATHFINDERS OF PHYSIOLOGY. By J. H. DEMPSTER, A.B., M.D. Detroit: The Detroit Medical Journal Company, 1914.

The history of medicine is really the history of humanity, and it has long since become too extensive, too elaborate, and too complicated for even the specialist to master. Already it is falling into its divisions, and scarcely a month passes without the appearance of a monograph or a book upon some phase of the subject.

These are mainly biographical and following the custom, Dr. Dempster has chosen a group of men for delineation, namely, those whose names are indissolubly bound up with physiology. They are, Harvey, Beaumont, Bernard. In addition, he has chosen certain subjects—digestion, respiration, the nervous system, the cell theory—and around these he has grouped the personalities which have been associated with them. The main current of physiology is well indicated, and the book contains in small compass an amazing amount of information which is not usually accessible.

SURGERY: ITS PRINCIPLES AND PRACTICE. By ASTLEY PASTON COOPER ASHHURST, A.B., M.D., F.A.C.S., Instructor in Surgery in the University of Pennsylvania. Large octavo, 1141 pages, with 7 coloured plates and 1032 illustrations, mostly original, in the text. Cloth, \$6.00, net. Lea & Febiger, publishers, Philadelphia and New York, 1914.

The principles of any science which is not entirely abstract, require to be re-stated continually. The principles of surgery, as they were understood forty years ago, are not in their entirety the principles of surgery to-day. Through practice new principles have been discovered, and many old ones were discovered to be not principles but incidents or accidents. Accordingly text-books which were once in vogue have been revised to bring them into accord with new knowledge, but something of the old inevitably clings to them. An entirely new text-book is one of great interest on account of its very freshness. This book, whose superscription is given, is designed to state anew the principles of surgery, and to deduce from them certain rules of practice. The author has, as we think, a correct notion of the nature of his business, which is to afford a new perspective, to place the various divisions in their proper relative position, to maintain their just proportions, and to indicate where further knowledge may be gained. He has succeeded in his design, and furnishes the student with clear and accurate statements in an attractive form. The book is the outcome of the best practice of what may be called the Philadelphia School. The writing is marked by scholarship and style. The illustrations are all original, all useful, and many of them beautiful. The book is published in the admirable manner to which Lea & Febiger have accustomed us. We venture to predict for it a warm reception at the hands of students and practitioners.

Books Received

The following books have been received and the courtesy of the publishers in sending them is duly acknowledged. Reviews will be made from time to time of books selected from those which have been received.

RADIUM AND RADIOTHERAPY. RADIUM, THORIUM AND OTHER RADIOACTIVE ELEMENTS IN MEDICINE AND SURGERY. By WILLIAM S. NEWCOMET, M.D. Illustrated. Price \$2.25 net. Philadelphia and New York: Lea & Febiger, 1914.

BLOOD-PRESSURE IN MEDICINE AND SURGERY. A GUIDE FOR STUDENTS AND PRACTITIONERS. By EDWARD H. GOODMAN, M.D. Illustrated. Price \$1.50 net. Philadelphia and New York: Lea & Febiger, 1914.

CLINICAL HEMATOLOGY: AN INTRODUCTOIN TO THE CLINICAL STUDY OF THE SO-CALLED BLOOD DISEASES AND OF ALLIED DISORDERS. By GORDON R. WARD, M.D. Octavo of 394 pages, illustrated. Price \$3.50 net. Philadelphia and London: W. B. Saunders Company, 1914.

ASTROLOGY IN MEDICINE THE FITZPATRICK LECTURES DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS ON NOVEMBER 6TH AND 11TH, 1913, WITH ADDENDUM ON SAINTS AND SIGNS. By CHARLES A. MERCIER, M.D. Price 60c. Toronto: The Macmillan Company of Canada, Limited, 1914.

MATERIA MEDICA FOR NURSES. By A. S. BLUMGARTEN, M.D. New York: The Macmillan Company, 1914.

AURICULAR FLUTTER. By W. T. RITCHIE, M.D., F.R.C.P.E., F.R.S.E. Price 10s 6d. Edinburgh & London: W. Green & Son, 1914.

THE CLINICAL HISTORY IN OUTLINE. By P. G. WOOLLEY, S.B., M.D. Price \$1.00. St Louis: C. V. Mosby Company, 1914.

Retrospect

ABSTRACTS OF GERMAN LITERATURE

THE DIAGNOSIS OF PERITONITIS IN INFANCY. By DR. RICHARD DRACHTER, Munich. *Muenchener Medizinische Wochenschrift*, No. 11, 1914.

THE picture of acute diffuse peritonitis is usually so marked that the correct diagnosis is made without difficulty. The most important signs are, as we know, rigidity of the abdominal wall, localized pain and sometimes vomiting. The temperature is variable and may even be subnormal; certainly no one can determine the severity of the peritonitis by the height of the temperature. In dealing with adults or intelligent children we can always ask questions and obtain answers which aid in the diagnosis; also we can get them to inspire and expire at command when determining the amount of true rigidity, and inquire as to the exact location of the pain. It is quite otherwise in the case of infants and young children. Many refractory children, when examined, will lie on the back, draw up one or both legs, scream incessantly and keep the abdomen rigid, while other symptoms such as vomiting and intestinal paralysis may be absent, and thus it is almost impossible to make a diagnosis. In the examination of a large number of cases of peritonitis in the children of his clinic Drachter has during the past year followed a method of examination of his own. It occurred to him that it would be valuable to have some reliable sign that could be elicited by manipulations as far as possible from the diseased and tender part—the abdomen. As is known, appendicitis and early peritonitis in children are difficult to diagnose from pneumonia, meningitis, the infectious fevers, pyelitis and so forth, and in these doubtful cases he employs a test that is well known as a diagnostic sign for coxitis. It consists in raising the right leg by grasping the toes with the left hand, keeping the knee joint extended, and striking the plantar surface of the foot a light but firm blow. The jar causes a slight rubbing of the visceral and parietal peritoneum against each other, but quite sufficient to cause pain if there is a peritonitis. The result is usually that the child reflexly protects his abdomen with his hands, showing that the pain

caused is truly abdominal; the advantage of such a test being at once apparent since abdominal pain is the last thing the child would think of feigning during the manipulation of the foot. It must of course be remembered that inflammatory and even purulent processes may be present in the abdomen without causing the child to react to the above test, which is understood when one realizes that inflammation causes adhesions which may prevent the peritoneal surfaces from rubbing. If the sign is positive in an otherwise doubtful case the diagnosis of peritonitis is to be accepted; if it is negative the other symptoms alone must decide.

THE IMITATIVE DISEASES OF CHILDHOOD. By DR. AUGUST STRAUCH. *Muenchener Medizinische Wochenschrift*, No. 11, 1914.

The imitative instinct that is so well marked in children is of fundamental importance for the intellectual development not only in the normal but in the pathological direction. On every side we see many instances of what this instinct performs. Even at a very early age are imitative actions noticeable, the most elementary example being the cry of the child who hears other children crying. Later the imitative faculty becomes more complicated by the acquisition of knowledge, will and intuition. Instinct gradually plays a lesser rôle as the child grows and develops understanding and originality, which act upon the imitative faculty like a brake. But this imitative tendency never entirely disappears, and the individual is always liable to suffer psychic contagion or, as we more commonly designate it, suggestion. Indeed whole communities as well as individuals may suffer from an epidemic resulting from suggestion. In children this inclination to imitate is the result of the provocative stimulus passing through the central nervous system without being sufficiently inhibited by the cortical centres, so that a reaction or reflex, as it were, is at once obtained. The result of this is the echoing and attitudinizing seen in weak-minded children and in cases of dementia præcox. This reflex automatism is especially noticeable in the mongolian idiot. An hysterical disposition is particularly fruitful soil for the development of pathological imitations. Since human speech is the result of imitation it follows that there may be speech defects if the teacher, or speech standard, suffers from a defect. Stammering and lisping are often noticed in several members of a family where one member alone has a defect of speech. The "infectious" nature of a yawn is well

known, as also of emotions such as joy, sorrow, fear and so on. In speaking of nervous contagion Montaigne says, "The sight of pain in others causes it in myself, and a person who coughs violently rasps my lungs and throat." Madame de Sévigné, in a letter to her tuberculous daughter, writes, "*J'ai mal à votre poitrine.*" When certain peculiarities occur that are the result of environment it is often difficult to indicate the line of demarcation between physiological and pathological conditions. Nervous manifestations, such as convulsions, loss of consciousness and hallucinations in a large congregation of people are not infrequently seen in the United States of North America in the religious camp-meetings of the Methodists, especially among the negroes of the southern states. Psychic epidemics are also seen in girls' schools; trance-like conditions, tremors, screaming-fits and coughing are perhaps of most frequent occurrence. Such epidemics are not necessarily of an hysterical nature; they may attack healthy, non-neurotic children who merely have a markedly developed tendency to imitation. Again, one sometimes sees nocturnal enuresis occur in previously healthy children from their having been in contact with school comrades who suffer from this condition. Indeed such an epidemic has been known to spread through an entire school. Other examples are: a young girl began to limp after seeing a cripple at a health resort. A boy lost the power of walking from unconsciously imitating his brother who suffered from a post-diphtheretic paralysis of the lower extremities. A child developed nervous dyspnoea in imitation of her dyspnoeic mother and a tremor when trying to write such as was displayed by her father. Another child vomited for months after an ocean voyage with her seasick mother. Chorea imitatoria is frequently seen; polyuria has been observed in the children of a diabetic parent, and many other examples might be cited. Not only the diseases of others but the disease of the child himself must be taken into consideration under this question of imitation, for the subjective symptoms of an organic disease may be reproduced after recovery. Relapses after chorea are often the result of auto-imitation, and frequent although normal stools may persist after a protracted attack of diarrhoea. These imitative disturbances are probably in the majority of instances the result of folly and pampering on the part of the parents who gratify the child's every wish and encourage this unhealthy psychic element.

CHRONIC NICOTIN POISONING. By H. FAVARGER, Vienna. *Wiener Klinische Wochenschrift*.

With cigar smokers the symptoms occur in later years and are chiefly connected with the heart; in the case of cigarette smokers the results are seen early and are chiefly nervous manifestations. The nervous symptoms that result from cigars are of a more depressant character: dulling of the intellect, Daltonism, occurrence of a central scotoma, stupor, etc., while cigarettes cause such symptoms as excitability, sleeplessness, tremor, weariness and the like. Nicotin may also cause diarrhoea alternating with constipation, and also gastric ulcer. Palpitation of the heart may occur followed by arrhythmia, bradycardia, tachycardia, præcordial pain and even Cheyne-Stokes respiration and paralysis of the heart. The pathological changes are fatty degeneration of the myocardium and, less frequently, arteriosclerosis.

London, Ontario.

G. C. HALE.

THE June number of the *Union Médicale du Canada* contains a report by Dr. E. P. Benoit on anti-typhoid vaccination at St. Johns, Quebec, during the recent epidemic. The persons vaccinated were carefully chosen beforehand and only those who were considered healthy were inoculated. Eighty cases were treated. The vaccine used was prepared in the laboratories of the Bureau of Hygiene, Paris, and was obtained from Professor Chantemesse. Four injections were given at intervals of eight days and the results were entirely satisfactory. No ill effects were observed and in one or two instances, the person vaccinated was the only one of the family to escape infection. Two cases, which evidently had already contracted the disease, became ill in spite of one treatment, but the injection did not aggravate the illness in any way.

Res Judicatæ

EMERODS, MICE AND THE PLAGUE OF I SAMUEL VI.

IT seems admitted that Biblical scholars are by no means unanimous as to all that is involved in I Samuel vi, particularly verse five, which reads: "Wherefore ye shall make images of your emerods and images of your mice that mar the land."

This recommendation was made by the priests and diviners of the Philistines on account of a plague that attacked their people and appeared to have some connexion with the presence of the Ark of the Lord in their midst.

Maspero and Sayce thus describe the situation:* "It so happened that the Ark of the Lord, the ancient safeguard of Ephraim, had been lying since the battle of Eben-Ezer not far away without a fixed abode or regular worshippers. The reason why it had not brought victory on that occasion was that God's anger had been stirred at the misdeeds committed in His name by the sons of Eli and desired to punish His people; true, it had been preserved from profanation, and the miracles which took place in its neighbourhood proved that it was still the seat of a supernatural power.

"At first the Philistines, according to their custom, had shut it up in the temple of Dagon at Ashdod. On the morrow when the priests entered the sanctuary, they found the statue of their god prostrate in front of it, his fish-like body overthrown and his head and hands scattered on the floor; at the same time a plague of malignant tumours broke out amongst the people and thousands of mice over-ran their houses. The inhabitants of Ashdod made haste to transfer the Ark to Gath, from Gath it passed to Ekron, and it then went the round of the five cities, its arrival being in each case accompanied by the same disasters. The soothsayers being consulted at the end of seven months, ordered that solemn sacrifices should be offered up and the Ark restored to its rightful worshippers accompanied by expiatory offerings of five gold mice and five golden tumours, one for each of the repentant cities."

In a footnote to this passage we read: "In the Oustinoff collection at Jaffa there is a roughly-shaped image of a mouse cut out

* *History of Egypt*, Vol. VI., p. 345. The Grolier Society, London.

of a piece of white metal and perhaps obtained from the ruins of Gaza; it would seem to be an *exvoto* of the same kind as that referred to in the Hebrew text, but it is of doubtful authenticity." The representation, if of a mouse, is anatomically incorrect in several respects, one of them being the absence of a tail. Not until the recent knowledge of the ætiology of plague had been acquired could we have understood the significance of the making of these golden mice.

It is now known that bubonic plague, so common in India, is due to the presence in the blood of a bacillus known to pathologists as the bacillus pestis. This micro-organism was discovered in 1894 by the Japanese workers, Yersin and Kitasato, to be the cause of plague. But it is also known that rodents—mice, rats, marmots—are attacked by this same bacillus pestis and can therefore suffer from their form of plague. Further it has been established that the usual method of infection is, in the case of man, to be bitten by a flea which has been feeding on a plague-stricken rat or other rodent. That is to say, a carrier is necessary to convey from the diseased animal some of its blood containing the bacilli of plague, which, being introduced by the flea into the human being, can cause the development of plague in that individual. One of the characteristics of this form of plague is the development of buboes, tumours or swellings of the lymphatic glands in the groin or armpits, most commonly in the groin, the word bubo being derived from the Greek for the groin.

It is very remarkable that the priests should have recommended placing in the Ark not only five golden emerods but also five golden mice. The word emerod is a variant of hæmorrhoid and seems to be used in this and certain other passages where plagues are mentioned as the synonym of "tumour." Thus in Deuteronomy xxviii, 27, we read: "The Lord will smite thee with the botch of Egypt and with the emerods and with the scab and with the itch whereof thou canst not be healed."

The interest attaching to the emerods in the Ark is, then, that we may take it as exceedingly probable that the plague of I Samuel vi, 5, was bubonic plague. But a higher interest still belongs to the five golden mice for they seem to point to some suspected connexion between the diseased lower animals and the plague-infected people. The mice that overran the land were in the light of modern knowledge almost certainly a link in the chain of infection; it was not merely that they overran the land, it was that they were a causal or antecedent factor in the production of the human epidemic.

Whether the Philistine soothsayers recognized this causal link we cannot now say definitely; if they did suspect the connexion between the mice and the bubonic plague, they anticipated scientific truth by more than 2000 years.

The Oxford Dictionary quotes a writer in 1855 who remarks: "The mice and emerods of gold were essentially charms." It is perfectly possible that the images in the Ark were intended as different charms, the emerods against the human plague, the mice against the overrunning of the land by the vermin; but it is certainly exceedingly striking to find the tumours and the rodents associated at so remote a date when we know that only quite recently has it been established that rodents are a necessary factor in the production of human bubonic plague.

"No rats, no plague," is an old saying amongst the people of India.

It was not of course until the microscope had reached its present high stage of perfection that the various links in the chain of evidence connecting the microbe at one end and the man at the other could be made irrefragable, but it is certainly interesting to know that the "Black Death," which was for two millennia one of the most terrible but elusive of all the mysterious influences that warred against mankind, has been captured and identified and made to reveal the dreadful secret of its origin.

It is only now that we are *not* afraid for the pestilence that walketh in darkness nor for the destruction that wasteth at noon-day." The awful spectre of plague, the incubus of antiquity and of the middle ages, has been met at last face to face and has been routed by the "dry light" of science, that light that streams up through the lenses of the microscope, the veritable "*in hoc vinces*" of biology.

Halifax.

D. FRASER HARRIS

MEDICAL COUNCIL OF CANADA

THE second annual meeting of the Medical Council of Canada took place at Ottawa on June 16th and 17th. All the members were present except Dr. McKechnie of Vancouver, Dr. W. Bapty of Victoria, and Dr. Jenkins of Prince Edward Island. Dr. E. A. Braithwaite, of Edmonton, was introduced and took his seat for

the first time, having been appointed by the crown to replace the late Dr. Kennedy of Macleod.

The outstanding feature of the meeting was the resignation of Dr. (now Sir Thomas) Roddick from the presidency. His request to be relieved was accepted with genuine regret by the entire council, but Sir Thomas made a personal appeal to be relieved which could not be disregarded. It was realized that he had borne the heat and burden of the day in bringing about Dominion registration and now that his baby had cut its eye teeth it was only fair that its founder should be granted an honourable retirement if he so desired. The council, however, elected Sir Thomas honorary president for life with a seat on the executive committee, so that his valuable services will not be entirely lost to the council.

Dr. R. S. Thornton, of Deloraine, Manitoba, was elected president and Dr. R. J. Gibson, of Sault Ste. Marie, Ontario, vice-president. Dr. R. W. Powell of Ottawa was appointed registrar again for the ensuing year, and Mr. F. H. Chrysler, K.C., was appointed general counsel. Mr. G. L. Blatch was appointed auditor.

The various committees were elected on the last day of the meetings. The auditor's report gave a detailed statement of receipts and expenditure, showing a comfortable balance on the right side of the ledger with which to begin the year's work. The registrar, in his report, gave it as his opinion that a much larger class will present themselves for examination this autumn than did last, but it is too early to forecast the figures. It was decided to hold the examinations this year at Montreal on October 13th, and that an opportunity should be extended to western applicants for next spring by holding an examination at Winnipeg on June 15th, 1915.

The registrar was instructed to publish his second announcement as soon as possible and we are informed that it is now in the hands of the printer and will be out about July 1st. It will contain the register of Canada up to date.

Before the meeting closed it was decided to offer the Honorable Dr. W. J. Roche the diploma of the council, L.M.C.C. *Honoris Causa*.

One hundred and eight cases of measles were reported in Hamilton during the week ending June 13th.

Obituary

DR. THOMAS TRENAMAN of Halifax, died April 27th, in the seventy-first year of his age. Dr. Trenaman was born at Halifax and was educated at King's College, Windsor, Nova Scotia. He obtained his medical degree in 1869 from the College of Physicians and Surgeons of New York. Dr. Trenaman was medical officer of health at Halifax, where he had practised for more than forty-five years. He had been in failing health for the past twelve months but had continued his professional work.

DR. JAMES S. MORRIS, of Grimsby, Ontario, died May 22nd. Dr. Grimsby had practised in Grimsby for seventeen years and he was immensely popular both as a physician and as a citizen. He was born in Oshawa in 1873 and graduated from the University of Toronto in 1896. He leaves a widow, two sons, and one daughter.

DR. W. P. JONES, of Prescott, Ontario, died May 19th, in the eighty-second year of his age. Dr. Jones was one of the oldest physicians in Ontario and had practised in Prescott since 1874. He was born in Prescott in 1832.

DR. MILTON I. BEEMAN, of Newburgh, Nova Scotia, died May 10th, in the sixty-third year of his age. Dr. Beeman was well known and much respected both in Lennox and Addington, where he had practised for forty years. For some years he was a member of the provincial board of health; he was also a major in the 47th Regiment. He leaves a widow, four daughters, and two sons.

DR. G. W. HURLBURT, of Thorbury, Ontario, died May 12th. He was seventy-seven years of age. He had a large country practice and was greatly respected.

DR. W. E. HAMILL, of London, Ontario, died on Sunday, May 31st. Dr. Hamill was a graduate of Toronto University. After obtaining his M.D. degree, he took a post-graduate course in London and on his return to Canada went into practice as an oculist. He leaves a widow and one daughter.

News

ONTARIO

DR. H. R. McCULLOUGH has been appointed medical officer of health at Hamilton, to succeed Dr. S. M. Henry who has been elected Mayor of Hamilton.

SCARLET fever has broken out in the Indian Reserve at Cape Crokes, twenty miles north of Wiarton. Five deaths are reported.

FIVE hundred cases of measles are reported in Hamilton. At present the cases are confined to the east end of the city.

THE provincial health department of Ontario has received a request that the tuberculosis exhibit which has been sent to the towns and cities of the province, shall be sent to the International Tuberculosis Convention which is to take place this year at Lyons, France.

DR. AGATHA DOHERTY, of Toronto, has been appointed senior house surgeon to the new London Hospital for Women.

DR. CHESTER P. BROWN, of Toronto, has been appointed assistant medical officer and bacteriologist at the William Head Quarantine Station.

Reports from Prince Arthur, Fort William, Windsor, and other places in the province show that scarlet fever is very prevalent.

QUEBEC

THE sum of \$4,872 was collected recently by means of a flower sale in aid of the tuberculosis hospital which is to be built at Quebec.

MONTREAL is to have a municipal laboratory. It is to be under the directorship of Dr. H. St. George.

POST-GRADUATE courses in the diagnosis of tuberculosis are

being given at the Bruchesi Institute, Montreal, under the direction of Professor S. A. Knopf of New York. Each course lasts for fifteen days and the number of those who take advantage of it is limited to six, so that each person receives individual instruction. The fee is \$15.

The *British Medical Journal* for June 6th, 1914, contains a letter referring to the gallant behaviour of Dr. James F. Grant, surgeon of the ill-fated *Empress of Ireland*. The letter is written by a ship surgeon. Dr. Grant is a graduate of McGill University.

AN outbreak of smallpox is reported from Varennes and Boucherville. Sixteen cases have already been reported.

MANITOBA

A GRANT of \$15,590 has been made by the Winnipeg city council to the General Hospital. The grant is intended to make up the deficit in last year's maintenance fund.

ALBERTA

The sum of \$15,000 has been granted to the Calgary Hospital board to meet current expenses until the estimates are passed.

A GRANT of \$14,000 has been made by the city council of Medicine Hat towards hospital improvements, and \$5,000 has been granted for current expenses.

SMALLPOX is reported from the hamlet of Bowell, near Medicine Hat.

SASKATCHEWAN

THE necessity of increasing the hospital accommodation in Moose Jaw was brought up at an informal meeting of the Hospital Board and the Moose Jaw Medical Association on May 28th.

THE increased cost of maintenance has compelled the authorities of the Regina General Hospital to increase the fees charged to patients. The charges made in future will be: private wards, \$3.50 a day; semi-private wards, \$2 and \$2.50 a day; public wards, patients resident in Regina, \$1.50 a day, non-resident patients, \$1.75. A charge of \$2.50 will also be made for maternity cases. The plans

for the new nurses' home have been modified to meet the estimated cost. This will make a difference of eighteen rooms.

THE formal opening of the Hugh Waddell Memorial Hospital at Canora took place June 18th. The hospital was built by Mrs. Waddell in memory of her husband, the late Mr. Hugh Waddell, of Peterborough, on a site given by Mr. C. R. Graham, of Winnipeg. The hospital has a capacity of thirty-eight beds. It has been open to receive patients since March 16th, and about thirty-four admissions have been made. Dr. E. H. Gray is the medical superintendent.

BRITISH COLUMBIA

THE new Royal Columbian Hospital at New Westminster was formally opened May 29th.

DR. J. W. McINTOSH, of Vancouver, has been appointed associate professor of chemistry and acting head of the department in the University of British Columbia.

A WING is to be added to the Chilliwack Hospital. It is estimated that the new building will cost about six thousand dollars.

MEDICAL COLLEGES

McGill University

THE Annual Convocation for conferring degrees in medicine took place on Tuesday, June 9th, when the degree of M.D., C.M., was conferred on the following:

Alan Fenton Argue, B.A., Carp, Ont., Douglas James Barclay, New Westminster; Henry Douglas Bayne, St. Michael, Barbados; Walter Aloysius Brown, Moncton, N.B., Donald Ernest Howell, Cleveland, Victoria; Ernest Buchanan Convery, Montreal West; Albert Joseph Couillard, B.A., Ottawa; Filmer Engers Coy, Vancouver; William Guy Dalpé, Montreal; Harry Aylwin Dover, Ottawa, Ont., Millard James Fillmore, Advocate Harbour, N.S.; Arthur Maxwell Fisher, Woodstock, N.B.; George Alexander Fleet, Montreal; Joseph Francis Gallagher, Bangor, Me.; David Hartin, Neslon, B.C.; Isadore Benjamin Hirshberg, Bay City, Mich.; Lionel Charles Hutson, White Park, Barbados; Abraham Bernard Illievitz, Montreal; Marcus Lorne Jewett, Central Keswick Ridge, N.B.; Curtis Daniel Johnston, Southfield, Jamaica; Arthur Llewelyn

Jones, Victoria; Bert Logan Jones, Sprague, Washington; Cecil Roy Joyce, Woodstock, Ont; Alfred Edward King, Waltham, Mass.; James Carrel Lee, Quebec; Theodore Howston Lennie, New Westminster; Thomas John Luby, Meriden, Conn.; Arthur Edward London, Canterbury, N.B.; Charles Titcomb London, Canterbury, N.B.; Aden Floyd MacIntosh, Dundela, Ont.; Henry Hector MacKenzie, New Westminster; Edward Halton Mason, Ph.B., Providence, R.I.; Gerald Carlton Melhado, Old Harbour, Jamaica; David Louis Mendel, Montreal; William Alexander Moore, Kaslo, B.C.; Charles Richard Llewellyn Morgan, Hamilton; Ernest Mariett Morris, A.B., Fall River, Mass.; Duncan Arnold Morrison, Maxville, Ont.; Edward Vincent Murphy, A.B. (Holy Cross), Fall River, Mass.; Hugh Roy Mustard, Victoria; James Samuel Myers, M.D., Runaway Bay, Jamaica; Leslie Gladstone Pearce, Brantford, Ont.; John Wilmer Peck, Seaforth, Ont.; John M. Pollock, Berwick, Ont.; Clarence Frederick Carson Powles, Montreal; Ramsay David Rankin, Stratford, Ont.; Charles Waymond Reeves, Sault Ste. Marie, Mich.; Charles Douglas Robbins, Yarmouth, N.S.; Lawrence Hamilton Roberts, B.A., Ottawa East, Ont.; Keith Forrester Rogers, Yarmouth, N.S.; Albert Ross, B.A., Blue Mountain, N.S.; William Wallace Ruddick, St. John, N.B.; William Clifford Munsell Scott, Ottawa; Robert Cameron Stewart, B.Sc., Quebec; Walter Frederick Taylor, Charlottetown; Frank Wendell Tidmarsh, Charlottetown; Douglas Waterston, B.A., Westmount, Que.; John Cuthbert Wickham, B.A., St. Lambert, Que.; David Edwin Wiley, Andover, N.B.; Thomas Geddes Wilson, Wingham, Ont.; Eric Charles Harvey Windeler, Hazel Hill, N.S.; Henry Pultenay Wright, B.A., (Bishop's) Ottawa.

The Medalists are: *Holmes' Gold Medal* for highest aggregate in all subjects forming the medical curriculum: C. R. Joyce, Woodstock, Ont.

Final Prize for highest aggregate in the Fifth Year Subjects: L. G. Pearce, Brantford, Ont.

Wood Gold Medal for best examination in all Clinical Branches: A. L. Jones, Victoria.

McGill Medical Society's Senior Prize: G. A. Fleet, Montreal.

The following is the list of prizemen in the first four years:

First Year

Prizeman, R. H. MacLauchlan, Calgary, Alberta.

Junior Anatomy Prize, J. R. Dean, Clarenceville, Que.

Second Year

Prizeman, H. A. Des Brisay, Vancouver.

Senior Anatomy Prize, H. A. Des Brisay, Vancouver.

Medical Society Junior Prize, A. Bissember, Berbice, British Guiana.

Third Year

Prizeman, N. M. Guieu, Ottawa,

Sutherland Medallist, Louis Gross, Montreal.

Morley Drake Prize, N. M. Guieu, Ottawa.

Fourth Year

Prizeman, J. A. Urquhart, Revelstoke, B.C.

The Joseph Hils Prize, H. L. Moffatt, Rialto, California.

The *ad eundem* degree was conferred on the following graduates of Bishop's College: John Francis, Maximilian Goltman, and Albert F. Longeway.

Dr. Victor Neil MacKay of Halifax, N.S., received the *Diploma of Public Health*.

The *Honorary Degree of LL.D.* was conferred upon Sir William Leishman.

The following are the changes in the staff for the coming session:

Dr. L. J. Rhea has been appointed Associate Professor of Pathology.

G. R. Mines, M.A., has been appointed the Joseph Morley Drake Professor of Physiology.

Dr. R. F. Miller, who has been in charge of the Department of Physiology for the past session has resigned to accept an appointment to the Chair of Physiology in Western University, London, Ont.

Dr. O. C. Gruner, Assistant Professor of Pathology, has resigned from the post and returned to England.

The post-graduate courses given during the first two weeks of June were attended by twenty-five graduates, an unusually large number.

Alberta University

THE autumn examinations for those wishing to obtain license to practise in Alberta will begin on September 15th, and will be held at the University of Alberta, Edmonton South, Alta. Applications, with examination fee of \$50, matriculation certificate, and graduation diploma must be in the hands of the Registrar, University of Alberta, on or before August 15th. Proper application blanks and further information may be obtained upon request.

Dalhousie University

The medical faculty is mourning the death of the young professor of pathology, Dr. Murdock Alexander Lindsay, who lost his life in the disaster to the S.S. *Empress of Ireland* on May 29th. The circumstances in this instance are particularly sad for Dr. Lindsay was on his way to England to be married. Murdock Alexander Lindsay, who was in his thirty-second year, was educated at the Halifax Academy, and later took his B.Sc. degree at Dalhousie University. He spent two years in the Halifax Medical College and then three years at the University of Edinburgh, where he graduated M.B., Ch.B., in 1908. He took several class prizes and medals during his university course, and had clinical experience in the Royal Infirmary, Edinburgh, and in Liverpool and Leeds. During the winter of 1910-11, Dr. Lindsay acted as assistant pathologist at the General Hospital in Birmingham, where he gained much experience. Returning to his native city of Halifax in 1911, he was appointed pathologist to the Victoria General Hospital and also professor of pathology in the newly instituted faculty of medicine of Dalhousie University. This spring he had just completed the installing of his department in the new building at the hospital, the planning of which had given him much thought.

Dr. Lindsay was a prominent figure in several kinds of athletics, Rugby football, foot racing, and latterly tennis. The faculty of medicine will miss him as an excellent teacher, the medical profession in this city as one ever ready to help in all the details of pathological diagnosis, he will be missed from the hospital, he will be missed from the Club. The funeral on June 2nd was one of the largest in Halifax for many years. To his mother, to his uncle, Dr. W. A. H. Lindsay, and to her on whom the blow falls with peculiar cruelty, the sympathy of the Medical Faculty is very sincerely tendered.

Toronto University

The following is the list of graduates in medicine:

Degree with Honours: Group 1., Macklin, C. C.; Group 2, Detweiler, H. K.; Group 3, Eberhart, F. L.

Medals: Detweiler, H. K., Gold; Hewitt, S. R. D., 1st Silver; McKenzie, K. G., 2nd Silver; Brown, H. E., 3rd Silver.

Chappell Prize in Clinical Surgery: Detweiler, H. K.

Pass:—G. C. Anglin, C. C. Ballantyne, A. F. Bastedo, J. R. Beaven, G. E. Binkley, J. E. Bond, J. M. Bremner, R. J. W. Brooke,

H. H. Burnham, G. L. Caldwell, K. W. Cameron, W. A. Cardwell, H. Clarke, E. J. Clifford, R. E. Coleman, H. R. Conn, L. H. Cook, R. Coutts, R. E. Crane, W. W. Cross, O. J. Day, T. G. H. Drake, J. A. Duck, F. M. Dure, G. M. Flock, G. S. Foulds, C. T. Galbraith, W. J. Gardiner, G. C. Gliddon, T. F. Graham, B. L. Guyatt, W. Hamilton, R. E. Hartry, J. N. Humphrey, H. B. Jeffs, J. E. Knox, O. J. S. Little, W. T. Little, F. G. Mack, H. S. Martin, J. C. Maynard, J. E. McCorvie, W. V. McIntosh, H. R. Macintyre, H. A. McKay, R. D. MacKenzie, W. W. McKenzie, A. E. McKibbin, W. J. McLean, E. A. McQuade, L. C. Palmer, A. A. Parker, M. H. Paterson, D. A. Quick, W. R. Reeds, E. F. Risdon, D. E. Ross, W. E. Sinclair, R. F. Slater, R. S. Smith, J. M. Stewart, R. G. Struthers, E. C. Syer, A. Taylor, W. L. Tyrer, W. V. Watson, H. A. Wolverton, C. S. Wynne.

In the fourth year the following have passed with special proficiency:

R. I. Harris, G. M. Dale, W. R. Hodge, D. E. S. Wishart, R. H. Fraser, C. R. B. Crompton.

In the third year those who have obtained honours are:

Anatomy: N. A. Wallace.

Physiology: N. A. Wallace, H. B. Maitland, R. M. Janes.

Pharmacology, N. A. Wallace, G. A. Davis, H. B. Maitland, W. P. McCowan, W. C. Givens, Miss O. G. Patterson.

Passed with special proficiency: N. A. Wallace, F. M. Johnson, H. B. Maitland.

In the second year scholarships have been won by: 1st, B. S. Cornell; 2nd, A. M. Jeffrey.

Passed with special proficiency: B. S. Cornell, A. M. Jeffrey, I. Erb.

In the first year the winners of scholarships are: 1st, R. B. Hare; 2nd, G. H. Agnew.

Passed with special proficiency: R. B. Hare, G. H. Agnew, D. M. Low, G. R. D. Farmer, R. W. Rankin, R. J. Spence, R. Davis, and N. E. McKinnon.

Canadian Literature

ORIGINAL CONTRIBUTIONS

The Canadian Journal of Medicine and Surgery, June, 1914:

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| Diagnosis of surgical diseases of the kidney | C. H. Gilmour and
W. A. Cerswell. |
| Socrates on Aesculapius and the Aesculapians | M. Hutton. |
| The family physician and public health | G. Chambers. |

The Canada Lancet, June, 1914:

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| Presidential address at the Ontario Medical Association, Toronto, 26th June | C. F. McGillivray. |
| A case of syphilitic splenomegaly resembling Banti's disease | H. B. Anderson. |
| The value of radium in malignant gynæcological conditions | W. H. B. Aikins. |

Dominion Medical Monthly, June, 1914:

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| Points in the diagnosis and treatment of syphilis | H. B. Anderson. |
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Western Canada Medical Journal, May, 1914:

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| Our present physical knowledge of X-rays | W. P. Davey. |
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Le Bulletin Médical de Québec, May, 1914:

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| Enuresie: Causes et traitement | F. Dubé and A.
Martin. |
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L'Union Médicale du Canada, June, 1914:

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| Rapport sur la vaccination antityphique à Saint-Jean d'Iberville | E. P. Benoit. |
| Quelques observations sur la contagion par la tuberculose | J. Kennedy. |

Medical Societies

WINNIPEG GENERAL HOSPITAL

THE usual monthly clinic was held on Monday, April 6th, at 8.30 p.m., when the following programme was presented. Dr. Munroe, case for diagnosis. Dr. Pierce, (1) Adrenals from case of Addison's disease, (2) Diaphragmatic hernia. Dr. Lehmann, (1) Tuberculosis of kidney, (2) Chondroma of thorax, (3) Syphilitic cases, (4) For diagnosis. Dr. Hiebert, abscess of lung. Dr. Moody, disseminated sclerosis.

SOCIETIES FOR MENTAL HYGIENE

THE first convention of Societies for Mental Hygiene was held under the auspices of the National Committee for Mental Hygiene at Osler Hall, Baltimore, on Monday, May 25th. In the afternoon the opening address was given by Dr. Stewart Paton, and was followed by an address by Dr. Thomas W. Salmon on the "Foundations for successful work by State societies and committees for mental hygiene." The remainder of the afternoon was taken up by informal talks and discussions. In the evening, an address was given by Dr. Lewellys F. Barker, president of the National Committee for Mental Hygiene. Other papers were read by Miss Julia C. Lathrop, Hon. George P. McLean, and Dr. William H. Welch.

The following day, May 26th, the opening of the seventieth annual meeting of the American Medico-Psychological Association took place.

ONTARIO COUNTY MEDICAL HEALTH OFFICERS

THE regular monthly meeting of the Ontario County Medical Health Officers took place in the Assembly Hall of the Chatham Public Library, April 16th. An interesting paper was read by Dr. Thompson, the Dominion government inspector at the Chatham abbatoir, and was followed by a general discussion in which Drs. McKeough, Bray, Musson, Hall, McCall, and Bentley participated.

MANITOBA MEDICAL ASSOCIATION

The seventh annual convention of the Manitoba Medical Association was held in the medical library of the University of Manitoba on June 2nd, 3rd and 4th, under the presidency of Dr. Jasper Halpenny. The conference was a most successful one, about eighty members and fifty visiting physicians being in attendance. The chair was taken by Dr. O. Bjornson and the opening address was delivered by the president, who chose for his subject, "Medical Education." Dr. Halpenny was of opinion that under certain circumstances—for instance, when a man is struggling to put himself through college—it is rather a waste of time to take an Arts course before entering upon the study of medicine; he thought, however, that before long the University of Manitoba would require a student to take at least two years in Arts before commencing his medical studies. Speaking of the curriculum, Dr. Halpenny thought that during the first two years in medicine too much time was given to anatomy, and that during the fourth and fifth years the tendency to specialize was rather too marked. He advised all graduates to spend from one to three years in hospital work before going into practice.

The presidential address was followed by a paper on "Laparotomy (non-obstetrical) during pregnancy," by Dr. Archibald Maclaren, of St. Paul, Minnesota. The results of thirty-five cases were cited by Dr. Maclaren, whose address was much appreciated and provoked a lively discussion. Dr. S. J. S. Pierce spoke on the subject of anti-typhoid vaccination, and Dr. Edith Brown, dean of the Medical College, Punjaub, India, gave a short address on medical work in India.

On Wednesday morning a clinical meeting was held at the Winnipeg General Hospital, after which those in attendance at the conference motored to Assiniboine Park for luncheon. Several interesting addresses were given in the afternoon of Wednesday and Thursday, and clinics were again held at the General Hospital on Thursday morning.

The officers elected for the year 1914-15 are: president, Dr. H. A. Gordon, Portage La Prairie; vice-presidents, Dr. A. P. McKinnon and Dr. Walkey, Portage La Prairie; honorary secretary, Dr. R. B. Mitchell; honorary treasurer, Dr. J. A. Gunn; executive, Dr. Gibbs, Selkirk, Dr. Bigelow, Brandon, Dr. Andrew, Minnedosa, Dr. Keele, Portage La Prairie, and Dr. Cohoe, Pilot Mound.

The following resolution was passed unanimously:

"Whereas, on account of the virulence and endemic existence of typhoid fever in our prairie provinces, with so much consequent suffering, loss of function and of life itself, and, while appreciating as we do all efforts to eradicate the disease by correct sanitation, extermination of flies, etc., yet the success that has attended the use of anti-typhoid vaccine in our hospitals and armies has been so marked that it has long since passed the experimental stage, having proved more effectual than the vaccine of Jenner against smallpox.

"Therefore, be it resolved that this convention urge upon every physician in our membership by precept and example the introduction of this vaccine in private practice, and the adoption of compulsory inoculation wherever large gangs of men are forced to work under unfavourable conditions."

Dr. Halpenny and those who so ably assisted him are to be congratulated upon the success of the meetings.

ONTARIO MEDICAL ASSOCIATION

THE thirty-fourth annual meeting of the Ontario Medical Association was held in Toronto, May 26th, 27th and 28th. An excellent programme, which was chiefly clinical, was presented, the sessions being held in the various hospitals of the city as well as in the Medical Building of the university.

On Tuesday morning, May 26th, the medical and surgical sections met, when the following papers were read:

"Case of tetanus treated by carbolic acid, with recovery," Dr. J. T. Fotheringham; "Artificial pneumothorax in the treatment of tuberculosis," Dr. C. D. Parfitt; "Vincent's angina, reports of cases," Drs. P. Goldsmith, D. Gibb Wishart, and Brefney O'Reilly; "Syphilitic splenomegaly simulating Banti's disease," Dr. H. B. Anderson; "Case of Splenectomy in Banti's disease," Dr. J. S. N. Magwood; "Acute intestinal obstruction," Dr. F. N. G. Starr; "Cardiospasm, with exhibition of two cases," Dr. J. K. McGregor, "Some complications in hysterectomy for fibroids," Dr. N. A. Powell.

At the opening of the afternoon session the president, Dr. C. F. McGillivray, of Whitby, delivered his address, in which he dealt admirably with the important questions before the profession in Ontario. The address opened with an appreciation of the country practitioner and the wide range of his beneficent activities. Touching tributes were paid to the memory of Drs. Fenton and Caven

whose loss has been keenly felt. After contrasting the qualifications of the regular and irregular practitioner, the president warmly endorsed the proposal of Sir James Whitney that a government commission be appointed to go into the whole question of medical practice. Three questions would have to be settled by such a commission,—what was meant by the practice of medicine, the primary education required before entering upon the study of medicine, and the technical education required after the study of medicine has been begun.

There was but one way of dealing with the problem of quackery and faddism, and that was to set a high standard and require all to come up to it. The faddists would soon disappear, if they were required to spend five years in study and pass examinations of a stringent kind. The government should co-operate with the medical profession in bringing this about.

On the relations of the Ontario to the Canadian Association Dr. McGillivray spoke as follows: "In the official programme which you have in your hands you will see that notice of motion has been given for the separation of this association from the Canadian Medical Association. The provincial association of Ontario was the first to affiliate with the national association, and all the other provinces, with the exception of Quebec, have followed her good example. Is Ontario to be the first to separate, and will the other provinces follow her bad example? President after president of yours in his annual address has urged the formation of city and county associations all over the province, and that such associations become affiliated with the provincial association, just as the provincial associations are affiliated with the national, and further, that membership in the city and county associations would entitle to membership in the provincial association, just as membership in the provincial association would entitle to membership in the national. Thus the various medical associations of the whole Dominion would be cemented together by bonds of common interest. The whole scheme will be guillotined if this association approves of the motion of separation, of which notice has been given. We do not disagree with the advocates of separation, who say that affiliation has worked in some respects to the disadvantage of the association, but surely there have been some compensating advantages; if our agreement with the national association, made at the time of affiliation, has worked to our disadvantage, if we have grievances, as I believe we have, if we have suffered in the loss of our annual meetings of 1910 and 1913, and also in our financial arrangements, as claimed,

surely those grievances can be remedied without recourse to such drastic measures as separation. The whole question will be before you this afternoon for discussion. Let wise and sane counsels prevail. If permitted to make a suggestion, I would suggest that prudent representatives from both associations be appointed, that they meet, adjust their differences, make a new agreement if deemed wise, and report to their several associations for approval at the first possible opportunity. But, whatever you do, don't to-day approve of a motion of separation. Ever remember that the friends of the one association are the friends of the other."

The President then paid a tribute to the splendid work done by the Hon. Mr. W. J. Hanna at the provincial hospitals for the insane, and to the advanced step in the treatment of the mentally afflicted being taken by the thorough scientific and therapeutic equipment of the new provincial Hospital for the Insane at Whitby. The change in the treatment of the insane was one of the most encouraging signs of the times. Inmates were no longer treated as dangerous prisoners to be confined by barred windows. With advanced methods they were now cared for as hospital patients. Restraint had been dispensed with, and one result was that large numbers of mildly afflicted persons who were being brought to the institutions for treatment and cure, where under the old system their shrinking from asylums kept them at home until the disease had become aggravated.

Dr. McGillivray urged the doctors to keep up their agitation for consideration in the Workmen's Compensation Act. The medical men had a right to a proper guarantee of remuneration for their services, and although the Act would go into force without such provision, the matter was a long way from being finally settled.

Following the president's address and a symposium on syphilis, to which Drs. J. A. Fordyce and Arthur Ellis, of New York, and Dr. J. W. S. McCullough contributed valuable papers, a well attended business meeting was held. The action which was taken on the important proposal that "the affiliation between the Ontario Medical Association and the Canadian Medical Association, in its present form, be discontinued," was fully reported in the last issue of the JOURNAL (page 517). The president's advice was followed; the motion was withdrawn, and amending motions appointing a committee to whom the matter is referred were carried without dissent. The question of the affiliation of the county societies was referred to the executive. Among the reports of committees presented, that of the Committee on Fees contained the following recommend-

ation: "That a standing committee of this Association be formed for the purpose of considering from time to time, the question of fees in all its bearings, with a view to safeguarding the interests of the public and the profession and making such recommendations for changes or re-adjustments as may be deemed advisable and the adoption of which will carry the approval of this representative body of the profession." The two following resolutions were also carried: moved by Dr. Harley Smith, seconded by Dr. W. A. Young, "That there be formed a Standing Committee on Resolutions, to which shall be referred all resolutions that any member may desire to bring before the Association." Moved by Dr. B. L. Riordan, seconded by Dr. J. F. Uren, "That this Association request the Government of the Province of Ontario that the Act entitled 'Compensation for Employees by Employers for injury or industrial diseases sustained while following their occupation', be amended so as to provide for the payment of first aid in such cases by registered practitioners for a period not to exceed six weeks, the fees for services rendered to be passed on by the Commission on the accounts being presented to them in detail, such accounts to be paid out of the funds of the Commission."

At the evening session Dr. B. P. Watson gave the address in obstetrics and Dr. Finney, professor of clinical surgery in Johns Hopkins University, the address in surgery, which was entitled "The cause of failure in operations for cholelithiasis."

Wednesday morning was spent at the General and the Sick Children's hospitals, where clinics were held and operations performed. In the afternoon Dr. E. Libman, of Mt. Sinai Hospital, New York, delivered the medical address on "Subacute bacterial endocarditis." Dr. Libman brought with him, and exhibited throughout the meeting, a remarkable series of pathological specimens illustrating this subject, upon which his investigations have shed much light. The nominating committee then brought in their report as follows: place of meeting, 1915, Peterborough. President, D. Gibb Wishart; first vice-president, A. T. Shillington; second, J. T. I. Halliday; third, J. A. Marquis; fourth, Francis Williams; secretary, F. Arnold Clarkson; treasurer, J. H. Elliott; delegates to the executive council of the Canadian Medical Association; H. B. Anderson, A. T. Shillington and Ingersoll Olmsted. The new president was then installed.

Thursday morning was spent at Grace, St. Michael's and the Western hospitals, and the afternoon at the Woodbine where the members were the guests of the Ontario Jockey Club.

The Canadian Medical Association

Annual Meeting, 1914, St. John, N.B., July 7th, 8th, 9th and 10th

MEMBERS OF THE EXECUTIVE COUNCIL

F. P. Drake, London.	F. N. G. Starr, Toronto.
W. W. White, St. John.	A. I. Mader, Halifax.
Alex. Primrose, Toronto.	R. G. Brett, Banff.
R. MacNeill, Charlottetown.	John Park, Edmonton.
H. B. Small, Ottawa.	J. Alex. Hutchison, Montreal.
J. G. Adami, Montreal.	W. A. Thomson, Regina.
J. Halpenny, Winnipeg.	R. A. Reeve, Toronto.

R. E. McKechnie, Vancouver.

Place of Meeting, 1914—St. John, N.B.

Honorary President—Sir Thomas Roddick, Montreal.

President—H. A. McCallum, London, Ont.

President-elect—Murray McLaren, St. John.

Local Secretary—J. S. Bentley, St. John, N.B.

Vice-Presidents—Presidents of Affiliated Societies and the Presidents of Provincial Societies *ex-officio*.

Secretary-Treasurer—W. W. Francis, 836 University St., Montreal.

Local Secretaries are the Secretaries of Affiliated Societies and the Secretaries of Provincial Societies *ex-officio*.

FINANCE COMMITTEE

J. G. Adami, Chairman, Montreal.	H. B. Small, Ottawa.
W. W. White, St. John.	R. A. Reeve, Toronto.
F. N. G. Starr, Toronto.	J. Alex. Hutchison, Montreal.

COMMITTEE ON MEDICAL LEGISLATION

A. T. Shillington, Ottawa (with power to add).

MILK COMMISSION

Chairman, Chas. J. Hastings, Toronto.

Secretary, J. H. Elliott, 611 Spadina Ave., Toronto.

AMENDMENTS TO CONSTITUTION AND BY-LAWS

H. B. Small, Ottawa, Chairman (with power to add).

REPORTS OF OFFICERS

J. Halpenny, Winnipeg (with power to add).

NECROLOGY

J. H. Elliott, Toronto (with power to add).

COMMITTEE ON MEDICAL EDUCATION

R. A. Reeve, Toronto, Chairman (with power to add).

EDITOR

Andrew Macphail, 216 Peel St., Montreal.

Assistant to the Editor, W. W. Francis, 836 University St., Montreal.

Medical Societies

- CANADIAN MEDICAL ASSOCIATION:—President—Dr. H. A. McCallum, London, Ont. President-elect—Dr. Murray MacLaren, St. John, N.B. Secretary-treasurer—Dr. W. W. Francis, 836 University Street, Montreal.
Annual Meeting, St. John, N.B., July 7th, 8th, 9th and 10th, 1914.
- ACADEMY OF MEDICINE, TORONTO:—President—Dr. H. B. Anderson. Secretary—Dr. J. H. Elliot.
- ALBERTA MEDICAL ASSOCIATION:—President—Dr. C. E. SMYTH. Secretary—Dr. F. W. Gershaw.
- ASSOCIATION OF MEDICAL OFFICERS OF THE MILITIA:—President—Lt.-Colonel A. T. Shillington, A.M.C., Ottawa. Secretary—Captain T. H. Leggett, A.M.C., Ottawa.
- BRITISH COLUMBIA MEDICAL ASSOCIATION:—President—Dr. J. Glen Campbell, Vancouver. Secretary—Dr. H. W. Riggs, Vancouver.
Annual meeting, Vancouver, June 19th and 20th, 1914.
- CALGARY MEDICAL SOCIETY:—President—Dr. G. Johnston. Secretary—Dr. J. L. Allen.
- CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS:—President—Dr. J. G. Adami, Montreal. Secretary—Dr. George D. Porter, Ottawa.
Annual meeting, Halifax, July 13th and 14th, 1914.
- CANADIAN HOSPITAL ASSOCIATION:—President—Dr. H. A. Boyce, Belleville. Secretary—Dr. J. N. E. Brown, Toronto.
- CANADIAN PUBLIC HEALTH ASSOCIATION:—President—Dr. C. A. Hodgetts. General Secretary—Major Lorne Drum.
- CENTRAL SOUTHERN ALBERTA MEDICAL SOCIETY:—President—Dr. J. S. Murray, Okotoks. Secretary-treasurer—Dr. G. E. Learmonth, High River.
- COLCHESTER-HANTS MEDICAL SOCIETY:—President—Dr. J. W. T. Patton, Truro. Secretary—Dr. H. V. Kent, Truro.
- EDMONTON MEDICAL SOCIETY:—President—Dr. J. S. Wright. Secretary-treasurer—Dr. Jamieson.
- ELGIN COUNTY MEDICAL ASSOCIATION:—President—Dr. Frederick McEwen, Aylmer, Ont. Secretary-treasurer—Dr. A. B. Riddell, Bayham.
- FRASER VALLEY MEDICAL SOCIETY:—President—Dr. De Wolfe Smith. Secretary—Dr. D. F. Carswell.
- HALIFAX MEDICAL ASSOCIATION:—President—Dr. Kirkpatrick. Secretary—Dr. MacIntosh.
- KINGSTON MEDICAL AND SURGICAL SOCIETY:—President—Dr. W. G. Anglin. Secretary—Dr. W. T. Connell. Treasurer—Dr. G. W. Mylks.
- LONDON MEDICAL ASSOCIATION:—President—Dr. C. H. Reason, 538 Dundas Street. Secretary-treasurer—Dr. L. S. Holmes, 260 Hamilton Road.
- LUNENBURG-QUEEN'S MEDICAL SOCIETY:—President—Dr. J. W. Smith, Liverpool. Secretary—Dr. L. T. W. Penney, Lunenburg.
- MANITOBA MEDICAL ASSOCIATION:—President—Dr. H. A. Gordon, Portage La Prairie. Secretary—Dr. J. L. Gunn, Winnipeg.
- MEDICINE HAT MEDICAL SOCIETY:—President—Dr. O. Boyd. Vice-President—Dr. H. Orr. Secretary-treasurer—Dr. W. Knight.
- MONTREAL MEDICO-CHIRURGICAL SOCIETY:—President—Dr. D. F. Gurd. Secretary—Dr. Hanford McKee.
- NEW BRUNSWICK MEDICAL SOCIETY:—President—G. Clowes Van Wart, Fredericton. Secretary—J. S. Bentley.
- NIAGARA DISTRICT MEDICAL ASSOCIATION:—President—Dr. E. T. Kellam, Niagara Falls. Secretary—Dr. G. M. Davis, Welland.
- NOVA SCOTIA MEDICAL SOCIETY:—President—Dr. G. E. DeWitt. Secretary—Dr. J. R. Corston.
- ONTARIO MEDICAL ASSOCIATION:—President—Dr. D. Gibb Wishart, Toronto. Secretary—Dr. F. A. Clarkson, 421 Bloor Street West, Toronto.
Annual Meeting, Peterborough, 1915.
- OTTAWA MEDICO-CHIRURGICAL SOCIETY:—President—Dr. J. R. O'Brien. Secretary—Dr. R. K. Paterson.
- OTTAWA MEDICAL SOCIETY:—President—Dr. Charles W. Gorrell. Secretary—Dr. A. MacLaren. Treasurer—Dr. Harold Alford.
- PERTH MEDICAL ASSOCIATION:—President—Dr. A. F. McKensie, Monkton. Secretary-treasurer—Dr. F. J. R. Forster, Stratford.
- PETERBORO MEDICAL ASSOCIATION:—President—Dr. E. A. Hammond. Secretary—Dr. J. B. Mann.
- PICTOU COUNTY MEDICAL ASSOCIATION:—President—Dr. C. S. Elliot, Stellarton. Secretary—Dr. John Bell, New Glasgow.
- PRINCE EDWARD ISLAND MEDICAL ASSOCIATION:—President—Dr. A. A. MacDonald. Secretary—Dr. W. J. MacMillan, Charlottetown.
- REGINA MEDICAL SOCIETY:—President—Dr. Gorrell. Secretary—Dr. Dakin.
- ST. JOHN MEDICAL SOCIETY:—President—Dr. D. Malcolm. Secretary—Dr. F. P. Dunlop.
- SASKATCHEWAN MEDICAL ASSOCIATION:—President—Dr. G. R. Peterson, Saskatoon.
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- SWIFT CURRENT DISTRICT MEDICAL ASSOCIATION:—President—Dr. Graham. Secretary-treasurer—Dr. Hughes.
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- VANCOUVER MEDICAL ASSOCIATION:—President—Dr. J. W. McIntosh. Secretary-treasurer—Dr. J. H. MacDermot. Clinical Section:—President—Dr. A. B. Schinbein. Secretary—Dr. A. Rooke Robertson.
- WEST ELGIN MEDICAL SOCIETY:—President—Dr. Crane, Wallacetown. Vice-president—Dr. Webster, West Lorne. Secretary-treasurer—Dr. Smith, Fingal.
- WINNIPEG MEDICAL SOCIETY:—President—Dr. J. R. Jones. Secretary—Dr. S. Alwyn Smith.

Medical Societies

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ASSOCIATION MÉDICALE C. F. DE MANITOBA:

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ASSOCIATION MÉDICALE DE L'OUEST DE MONTRÉAL

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SOCIÉTÉ MÉDICALE DES COMTÉS DE BEAUCE ET DORCHESTER:

President—Dr. Fortier. Secretary—Dr. L. M. Déchêne, Beauceville.
Regular meetings, March, June, September, and December.

SOCIÉTÉ MÉDICALE DE ST-JEAN (IBERVILLE).

President—Dr. Moreau. Secretary—Dr. Duval (St-Jean d'Iberville).

SOCIÉTÉ MÉDICALE DE ST-HYACINTHE:

President—Dr. J. C. S. Gauthier, Uptown. Secretary—Dr. J. A. Viger, de St-Hyacinthe.

SOCIÉTÉ MÉDICALE DE SHEFFORD:

President—Dr. N. H. Blunt, Granby. Secretary—Dr. Wilfrid Lord, Granby, Co. de Shefford.
Regular meetings twice a year.

SOCIÉTÉ MÉDICALE DE TROIS-RIVIÈRES:

President—Dr. DeBlois, Trois-Rivières. Secretary—Dr. O. Darche, Trois-Rivières.

SOCIÉTÉ MÉDICALE DE VALLEYFIELD:

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President—Dr. B. Vézina, St-Alexandre. Secretary—Dr. U. J. I. Pajean, Ste-Anne.
Regular meetings, February, June, and October.

SOCIÉTÉ MÉDICALE DU COMTÉ DE MASKINONGÉ:

President—Dr. L. A. Plante, Louiseville. Secretary—Dr. A. A. DuHamel, Ste. Ursule.

SOCIÉTÉ MÉDICALE DU COMTÉ DE TERREBONNE:

President—Dr. Grignon, St. Jérôme. Secretary—Dr. H. Prevost, St. Jérôme.

SOCIÉTÉ MÉDICALE DU COMTÉ DE WOLFE:

President—Dr. Thibault. Secretary—Dr. A. Pelletier, St-Camille.
Regular meetings, the first Tuesday of March, June, September, and December.

SOCIÉTÉ MÉDICALE DU DISTRICT D'OTTAWA:

President—Dr. E. Aubry, Hull. Secretary—Dr. J. E. D'Amour, Papineauville.

LA SOCIÉTÉ MÉDICALE DE QUÉBEC:

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